PULP & PAPER INDUSTRY

"The Cellulose Age"

The Management Journal Covering North America's Wood Pulp, Paper, Paperboard, Fibreboard and Cellulose Industries.

EDITORIALS

June 1947 | VOL. 21 No. 7

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Publishing Office

71 Columbia St,.....Seattle (4), Wash.
Tel. MA. 1626

NEW YORK (17)

Nard Jones.....Associate Editor
370 Lexington Ave. (120 East 41st St.)
Tel. Murray-Hill 3-9295

NEW ORLEANS (12)

Wm. J. Krebs.....Southern Editor
305 Baronne St. .....Tel. Magnolia 4808

VANCOUVER, B. C.

Charles L. Shaw.....Canadian Editor
675 W. Hastings St.....Tel. Marine 1520

OTHER OFFICES

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121 2nd St.....Tel. GA. 5887

Arthur Ponsford.....Los Angeles 13, Calif.
124 W. 4th St.....Tel. MU. 8194

SUBSCRIPTION RATES

United States.....$2.00
Canada $2.00
Other Countries.....$3.00
Single Copies.....$ .35
Review Number.....$1.00

Another Alaskan Problem

This magazine—as it has been doing for 20 years—brings to its readers the facts about what is really going on in regard to an Alaska pulp and paper industry (next page).

In recent weeks, government spokesmen and newspapers have been beating the drums for an Alaskan newsprint mill. In the reams of publicity being turned out, we note the oftrepeated phrase that it may be "too big an undertaking" for private capital. Why? Does that mean it is too unsound for any money except the unsuspecting taxpayers?

PULP & PAPER Industry has not been a "johnny-come-lately" in seeing the great pulp and paper possibilities in Alaska, under healthy economic conditions. For 20 years we have sought out and published the economic facts.

Before any newspapers or other publications made mention of the fact, PULP & PAPER Industry began publishing articles in December 1944, which pointed out that the Ickes-sponsored Indian claims to ownership of certain areas of Alaska were a menace to any private investment in a pulp and paper mill. We may have felt a little lonesome in harping on that subject so often. We note, at long last, that a bill was before Congress as this issue went to press which would dispose of those claims, by paying the Indians off with money if their claims are recognized.

But this bill would ameliorate just one unhealthy economic condition facing an Alaskan mill.

There is another one which we suggest that all present or projected pulp and paper companies which might want to invest in Alaska should be aware of—at least.

It is the chaotic situation in regard to labor relations of the shipping companies which has been throttling water-borne commerce. It has prevented the Alaska Steamship Company from publishing a schedule for five years. Just think what it would mean if a railroad could not publish a time table?

It is freely predicted that Alaska "will take it on the chin again" this year when wage and contract terms are reopened in June between the operators and unions. A lumber company in Alaska just last month got Christmas decorations and presents it had shipped from Seattle last September for a Christmas company party. Industries which are dependent upon Alaskan shipping for supplies, etc., have suffered greatly from several years of numerous work stoppages, walkoffs, quickie strikes, slowdowns, etc., which have marked this bitter labor strife and any honest observer must concede that industries of the future are likely to continue to suffer from it for a long time to come.

In This Issue—

THE FACTS ABOUT ALASKA— TWO FIRMS MEAN BUSINESS

Two organizations appear to mean business with regard to an Alaska pulp and paper project, it was learned definitely this month by PULP & PAPER after study of various Alaska "moves" beginning more than a year ago in their present phase.

One of the organizations is the D. and F. Company of Los Angeles and Pleasantville, N. Y. Men in this enterprise are Emmett Doherty, Los Angeles attorney; Pat Daugherty, Los Angeles oil magnate and owner of the Santa Anita and Hollywood race tracks; and E. T. Foley, of Foley Brothers, prominent construction firm of Pleasantville, New York. Mr. Foley is a resident of Pasadena, Calif. Foley Brothers have done construction work in Alaska before, notably on the famous Haines cut-off road. Mr. Daugherty's investigation of Alaska timber-use is said to date back 20 years. Connected with this enterprise are a number of Pacific Coast newspaper publishers.

The D. and F. mill would be, it is said, a $28,000,000 project which would embrace plywood and lumber operations. The newsprint capacity, well informed sources say, would be 500 tons daily. The site indicated is Point Agassiz, on the mainland directly across the water from the island which harbors Petersburg. One source indicates that "difficult" equipment, such as electric motors and power plant machinery is already on order. It is believed that government approval for power installations has been granted for two streams in the Point Agassiz area.

The second organization is one of the market pulp producing companies and it is hoped that more can be reported in this magazine at a later date on its project.

Both projects have been in the talk stage for almost a year, but in early May the principals and the U. S. Forest Service were said to be getting very close to terms on cutting contracts. It is known that George Sundborg, general manager of the Alaska Development Board, Juneau, was in Washington, D. C., late in April for conferences with Alaska Regional Forester Frank Heintzleman and Secretary of Interior Krug.

First big legitimate operators to become interested in Alaska in recent years—and they have been interested, more or less, for two decades—was the Crown-Zellerbach organization. Their on-the-spot surveys last year convinced them that important cost and operational factors made present action undesirable for their needs. It is known that other large operators have taken cursory surveys of the Alaska picture. There are big companies which consider Alaska as something for the future, but not under present high cost conditions.

For a time it was feared by some factors in the industry that the government, urged by frantic newspaper publishers, might make available an RFC loan for an Alaska mill which would, under the circumstances, compete unfairly with private industry. This possibility—if it was ever a real one—seems out of the window now, although publishers are still heckling Congress. It is significant that there is capital which feels Alaska offers a practical operation even under the long amortization which present mill costs would impose.

In New York this Spring there were dozens of rumors floating regarding the Alaska project. Most of them were only rumors. Some were a little more, based on serious surveys by combinations of engineers and financiers. Still others were generated by little known "engineers" who hoped to ride into Alaska on a ready-made horse.

In some quarters there has been disparagement of the Alaska idea, and this has sometimes amounted almost to a campaign of ridicule. Detractors of the idea pointed out that the Forest Service had been trying to "sell" Alaska to the industry in every major boom and even in some depressions. What the detractors did not consider was that there is a time for everything, and this may be it.

Closing of the terms between principals of the two Alaska projects and the Forest Service was slowed up last month by two things. First was an agreement on cutting rates—not stumpage rates. There is some fear that demands of the Forest Service may hike logging costs. They may want logging too high on the ridges, for example, or make other demands which would frighten off a mill. There are factors in Alaska which make for low logging costs, but it is true that logging on a pulpwood basis is an unknown factor in Alaska.

Indian Claims

However, terms can be settled when the Forest Service wants mills, Interior wants mills, Alaska wants mills, and mills want to go north. The real stickler is still the aboriginal Indian claims to ownership of the best timber in Alaska, (see editorial on page 19) which were instigated by ex-Interior Secretary Harold Ickes. The idea now is to propose that 10% of Forest Service proceeds from timber go to Interior to be set aside for aboriginal claims. There is, in fact, a bill along this line ready to go to Congress. But elements among the natives are insisting that 10% is too little, that 50% would be nearer right. Strategy now is to get the natives and their supporters to agree on 10% before the bill is brought up before the House. It is felt that any other strategy would be disastrous to the plan, for violent opposition and negative publicity could result.

Meanwhile, as the aboriginal claims problem is held in abeyance, the various interested groups have an opportunity to get closer to contract terms wih the U. S. Forest Service.

Sitka as Mill Site

Sitka is still not out of the running as a mill site, it was learned last month by PULP & PAPER from Ben B. Mullen of Juneau, now making temporary headquarters at Bank of Manhattan, New York. Mr. Mullen visualizes a $10,000,000 mill with a capacity of 150 tons daily of bleached sulfite in dissolving grades. The site of the proposed mill is at Herring Cove, near Sitka. It would have for power the projected Blue Lake hydro-electric plant which is backed by Sitka citizens who would relinquish their prior rights on Blue Lake to the mill. The mill might also make use of the slight surplus of power now available from the Navy plant which has been turned over to the Bureau of Indian Affairs. This surplus is not sufficient to operate the mill, but would have to be employed in connection with the proposed Blue Lake development. The 150-ton mill would require 3000 kw. The timber set-up makes practical a mill of 350 tons capacity eventually, according to Mr. Mullen, and this would require 7000 kw.

In the Mullen picture, it would be most practical to bale the pulp and look to the Atlantic seaboard market, and it may be that the Sitka

mill would be financed, in whole or in part, by the consumer of the pulp. Mr. Mullen told PULP & PAPER that he has had "a very favorable reaction" from eastern interests in the idea of Alaska pulp for dissolving grades. The timber area made available to the Sitka site by the U. S. Forest Service totals about 13 billion board feet. The Mullen project contemplates a cost of $78.70 per ton. The total wood cost would be, he indicates, $16.95 per thousand board feet.

Electrical power authorities, in referring to the much-discussed Navy power plant which was built at Sitka during the war and has been turned over to the Indian Affairs Department, said it does not offer enough power for both the city of Sitka and a paper mill.

There are plentiful power resources in Alaska in the pulpwood timber belt but lack of development and costs of building a plant have been the stumbling blocks.

It is known that several large companies have been approached, at least unofficially, by both the Department of the Interior and the Forest Service with regard to an Alaska mill project. What is usually left out of their offering is an arrangement for additional town facilities for a large operation: housing, churches, school, recreation. Many observers feel that such a background would be necessary in the labor relations picture of a large mill in the north, and few if any existing Alaska towns are set for newcomers as they now stand.

OUR COVER PICTURE - - - -

One of Florida's "Poorest Acres" Brings Boys $176 for Pulpwood

On our cover is a view of the one acre 17-year old tree "farm" plot of Tate School boys, near Pensacola, Fla. It still shows plenty of standing timber after 16 cords were removed and neatly stacked in a "thinning operation." The piles of wood in the foreground represent 329 diseased, forked, badly burned, crowded or crooked trees which were removed.

In the inset on the cover, James H. Allen, pioneer builder of pulp and paper mills at several localities in South and now president of Florida Pulp & Paper Co. and also of the new Alabama Pulp & Paper Co., is presenting a check for $176.80 for the 16 cords to young Ralph Travis, president of the Tate School "Future Farmers Chapter." O. R. Farish, advisor to the boys in their tree farming pursuits, is looking on.

Mr. Allen, addressing a barbecue party celebration of the tree thinning, said that "prospects for forestry in Florida never looked better than they do today."

He pointed out that on this one acre plot, it took just 17 years to grow 35 cords of slash pine. After 16 cords were thinned out, 19 cords remain standing and are still growing and multiplying. The 35 cords are equivalent to 18.8 tons of paper, said Mr. Allen.

R. U. Titus, chief of Applied Forestry, Florida Forest Service, marked the trees for cutting by 87 boys from the school. It was a three-day job. The pulpwood was hauled free of charge to the Florida Pulp & Paper Co. mill, so the boys received the full price. They learned the lessons of good forestry in a way they will long remember as grown men.

When planted 17 years ago, the acre was unfit for farming and called "the poorest piece of land in that section."

Jim Allen and his Florida associates, with 195,000 acres of timberland behind them, and drawing timber from a total of 500,000 acres, joined hands last year with St. Regis Paper Co. in the extensive plans for expansion at Cantonment, Fla. The Albama Pulp & Paper Co. mill, being built across the highway from the present Florida Pulp & Paper Co., will be operated by Mr. Allen and his staff when completed.

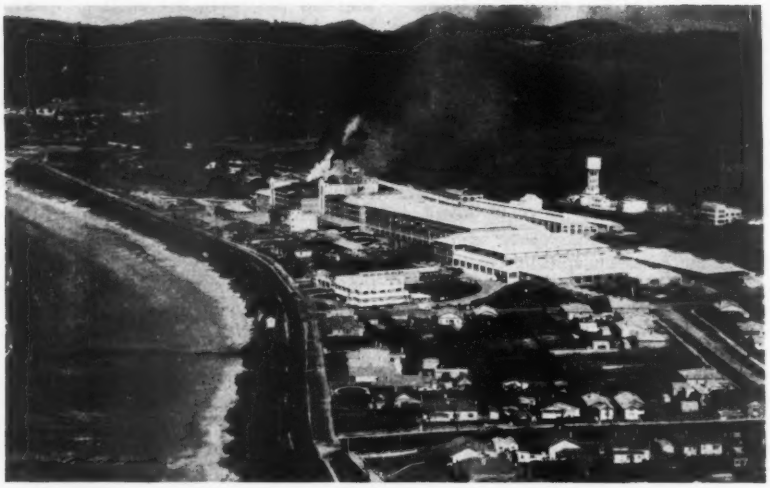
Mr. Allen, commenting on the St. Regis transaction, told PULP & PAPER Industry: "When we cut a cord, we put a cord back into the woods."

Breaks All Records

U. S. paper production during March, at 1,801,399 tons, broke all previous records, according to the Bureau of the Census. This figure was 172,282 tons above February and 36,906 tons over the previous high set in January, 1947.

AT DRY END OF FLORIDA PULP & PAPER CO.'S 144-inch trim Fourdrinier, Tate School boys see what happens to the pulpwood they cut and sold to this mill for $176.80. JAMES H. ALLEN, builder of some of the first mills in the South and now associated with St. Regis in a big expansion program at the site of this mill, is standing at right of finished rolls holding a sheet of the finished paper. Man in hat at extreme right is T. L. BARRINEAU, District Supervisor of Vocational Agriculture, who started the Tate School project 17 years ago when he was a teacher there.

Australian Mills Seek New Equipment To Increase Pulp and Paper Production



HERE IS CLOSEUP OF THE ASSOCIATED PULP & PAPER MILLS OF AUSTRALIA. This is at Burnie Tasmania. Between main building and beach can be seen area being cleared and groundwork going in for new machine room to house two machines. It will duplicate and parallel machine room which now stands next to this area. Where smoke shows are the digesters, recovery plant, etc. Soda process is used. Thec ompany's office is small white building near water. Behind the main plant is the filter plant with tower and to its right is an electric power substation. The mill takes a block of 5,000 hp from this government substation.

Because of plans to double the paper output of Associated Pulp & Paper Mills, Ltd., at Burnie, Tasmania, two representatives of that company are touring the United States to study modern and improved methods of wood production and preparation.

Two other Australians representing another big operator in the Antipodes—the New Zealand Forest Products of Penrose, New Zealand—also were reported on a United States tour with somewhat similar objectives in mind.

The representatives of the Burnie mill told PULP & PAPER Industry that they were especially interested in new sawmill and barking methods—not only hydraulic small wood barking but other methods, as well. At present split pulpwood as illustrated in a photograph on this page is used and is hand-barked in the woods. Such methods of production will be inadequate for the enlarged operations.

Clifford Bernard Hansen has been appointed superintendent of the new Burnie sawmill and wood preparation plant. He has already visited many mills and manufacturing concerns on the Pacific Coast. With him is R. F. Turnbull, who is temporarily on leave from Australia's equivalent of the Madison Forest Products Laboratory as a "chartered engineer" in the service of Associated Pulp & Paper Mills. They planned to visit pulp and paper mills in the East and in the South of U. S. before returning home and also to call on machinery manufacturers.

At left, CLIFFORD B. HANSEN, newly appointed Superintendent for new Wood Preparation Plant and Sawmill for Associated Pulp & Paper Mills, Ltd., Burnie, Tasmania.

At right, R. F. TURNBULL, Principal Research Officer-in-Charge, Utilization Section, Australian Government Division of Forest Products, South Melbourne, Australia. He is temporarily serving as consultant in U. S. for Associated Pulp & Paper Mills.

These gentlemen were photographed while visiting offices of PULP & PAPER Industry. A copy of the magazine is held by Mr. Turnbull.

They are expected to purchase some important American-made equipment, if they find what they want, and they do not anticipate any serious difficulty with import authorities in Australia. However, the Burnie mill may have to purchase smaller and more standard equipment in Australia. (Anyone who wishes to contact them in the U. S. can obtain necessary infirmation by writing this magazine).

Mr. Turnbull's title is "principal research officer-in-charge" of the Utilization Section, Division of Forest Products, Council for Scientific and Industrial Research, 69 Yarra Bank Road, South Melbourne, Victoria, Australia. About fifteen of the senior officers of that research group were trained at the Madison, Wis., laboratory and the Australian counterpart is similarly organized. Mr. Turnbull studied at Madison in 1930 and 1931 and planned a return visit there.

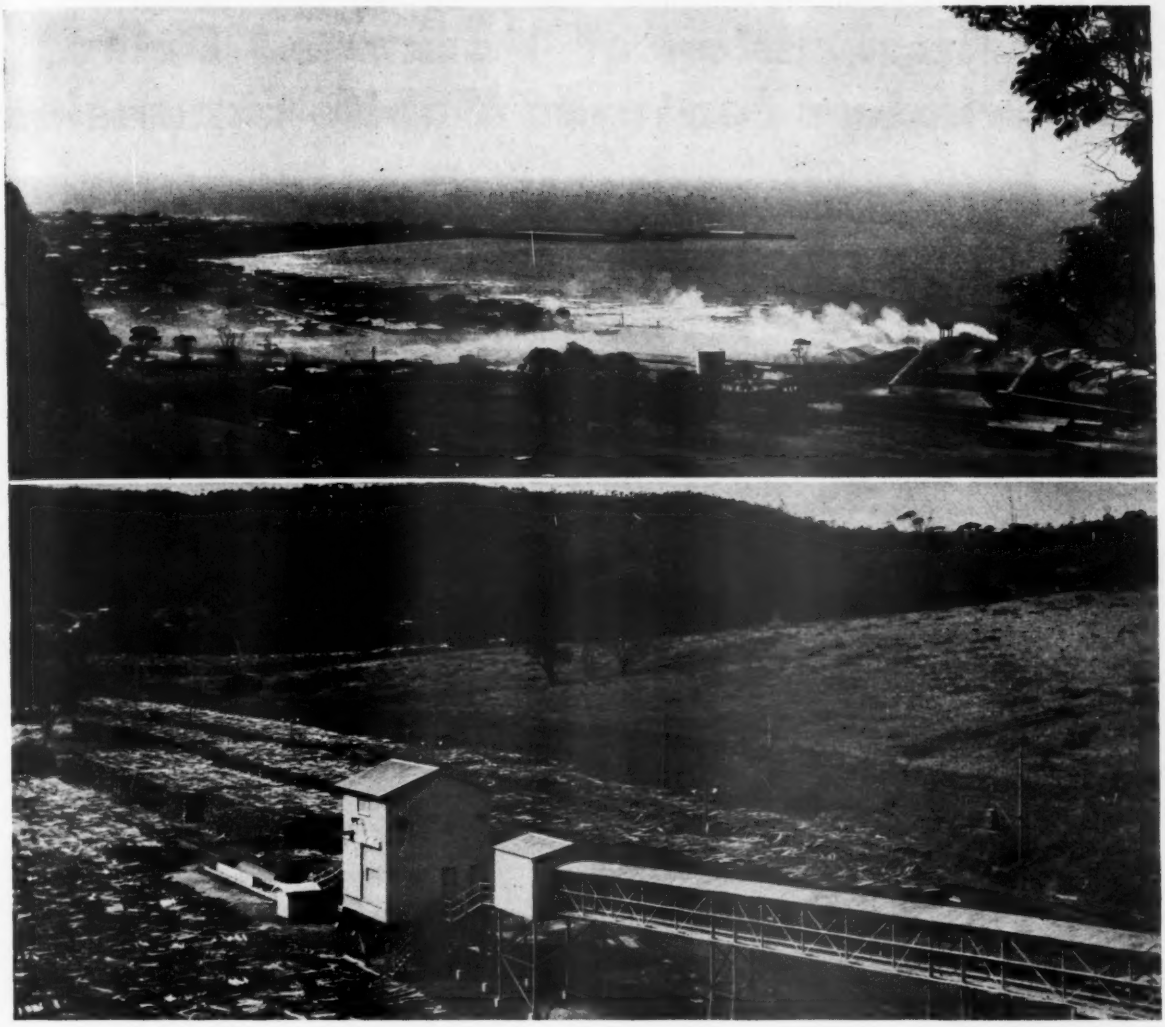
Sir Walter Massy-Greene is the managing director of the Associated Pulp & Paper Mills, Ltd., with head offices at 360 Collins St., Melbourne, C 1, Victoria, Australia. Harry B. Somerset, an industrially trained chemist and another former Madison staff man, is the general superintendent of the mill at Burnie.

Products of the company are bleached pulp and standard fine writing and printing papers, with eucalyptus supplying about 90% of wood requirements. Varying amounts of eucalyptus pulp are used, up to 100% for some papers.

This company now has two machines of 180 inch trim and 90 inch trim and the larger one runs at 600 ft. per min. Annual paper output is about 18,000 tons. Two new modern machines have been ordered from Walmsleys (Bury) Ltd., of England, which should improve grades and about double production.

There is a two-stage bleach plant at Burnie and the mill makes its own caustic soda and chlorine by electrolysis process. Clays from Tasmania and Australia's mainland are used in limited coating. The company purchases about three-quarters of its power requirements from government electrical power facilities and produces the remainder of its power and steam needs with firewood.

The mill consumes about 150 tons



a day of wood for pulp and about 250 tons per day of firewood for fuel.

Because pulp needs will be doubled the company is planning a new wood plant and sawmill to produce 140,000 board feet per day. Associated Pulp & Paper Mills owns or controls some 200,000 acres of freehold forest lands in that state.

There are two types of eucalyptus making up 90% of its consumption in pulp manufacturing. By far the largest part is the so-called alpine ash or white top type of eucalyptus. The remainder is stringy bark or tass oak type eucalyptus. For the remaining 10% other woods are used, mainly myrtle beech.

The mill is still cutting in virgin timber but Mr. Hansen said in some cases regrowth has been cut at an age of 22 to 24 years after reaching about seven foot girth.

Burnie is in Northwest Tasmania on Emu Bay, facing Bass Strait.

ABOVE IS VIEW OF ASSOCIATED PULP & PAPER MILLS with Emu Bay and the Bass Strait in the distance. The port and town of Burnie, Tasmania, are in left background. The nearest building at right is the present wood breakdown plant. Two conveyors leading to mill are for pulpwood, on left, and firewood, on right. A new sawmill and wood preparation plant, possibly using hydraulic barking, will be built to provide for doubling of fine paper production.

In picture below is cold deck storage of wood for the mill. Unbarked fuel wood is in foreground at left. The little building houses a hog for handling fuelwood sent to mill by the conveyor shown in the picture. This will become a scene from the past, when Associated puts in its modern wood plant and ends the use of this split wood, which is now being cut up in the woods in 3 ft., 9 in. billets and also is being handbarked in the woods. It is shipped by road and rail as far as 60 miles

Growth of Australia's Pulp and Paper Industry

While the manufacture of paper was one of Australia's earliest industries, it was not until the last quarter of a century that it achieved any considerable importance, and perhaps its most spectacular advance has been during the past eight or nine years.

The first Australian plant started in Sydney in 1818, some 15 years after the first Canadian mill at St. Andrews, Quebec. No further developments is recorded until 1864, when a mill was set up in New South Wales and another in Victoria, in 1868. Subsequently other small mills were established, and in 1927, following a number of amalgamations and absorptions, the present operating company of Australian Paper Manufacturers Limited was formed. At that time, this represented the entire industry in Australia.

By 1938, production had expanded to 54,744 tons of board and 34,287 tons of paper or a total of 89,031 tons. Production in 1944 totalling 152,211 tons consisted of 67,469 tons of board, 52,253 tons of paper and 32,489 tons of wood pulp.

Australia's production of pulp paper and paperboard still falls far short of the country's requirements, and each company has extensive plans for expansion. Australian Paper Manufacturers, Ltd., announced some time ago plans for four new paper machines. Associated Pulp and Paper Mills, Ltd., contemplates the addition of two new paper machines. Australian Newsprint Mills Pty., Ltd., recently announced a project for another paper machine. Cellulose (Australia), Ltd., plans another board machine.

New Application of Packaged Drives For Grinders Features Mobile Expansion

Expansion of the facilities of the Mobile Paper Mill Company now being effected not only will elevate that plant's daily capacity to the 175-ton class but has already brought the distinction of having the first application of the electronic all-electric adjustable speed drive for A-C circuits to pulpwood grinding equipment. The application is that developed by The Reliance Electric & Engineering Co. to the Roberts Grinder, manufactured by Appleton Machine Co.

Installation of the new grinder was completed early this year, and the mill management has expressed itself as delighted with uniformity of the groundwood produced under the electronic variable speed control. A duplicate installation is scheduled for the initial unit, which has produced as much as 57 tons of groundwood in a day.

The Mobile Paper Mill Co.'s plant was originally built in 1924 and was acquired by its present ownership in 1932. R. E. Hartman, company president, is one of the "old timers" of the southern industry.

When Mr. Hartman took over the Mobile mill it produced about 5,000 tons of board during each of the two succeeding years. Then improvement began, with steady progress up to 1946 when its production ran between 21,000 and 24,000 tons annually. Both equipment and buildings were expanded during the intervening years. These interim improvements included attention to the six-cylinder, 72-inch, 73-dryer machine. Installed in 1924, it currently produces an average of 65 tons per day of boxboard on a calendar day basis, and has run off as high as 80 tons in one day.

Foundations have been laid and steel framework is being erected for a new 360-foot-long machine building that will house a modernized 100-inch trim Black-Clawson cylinder machine. This unit will have 110-inch cylinders of 48-inch diameter, and 124-dryer rolls. It will add 40,000 tons to the plant's annual capacity.

Of this machine, Mr. Hartman predicts it will have features not currently found and that "when industry can run 600 feet speed on cylinder machines of similar grades, his mill, too, will be running 600 feet."

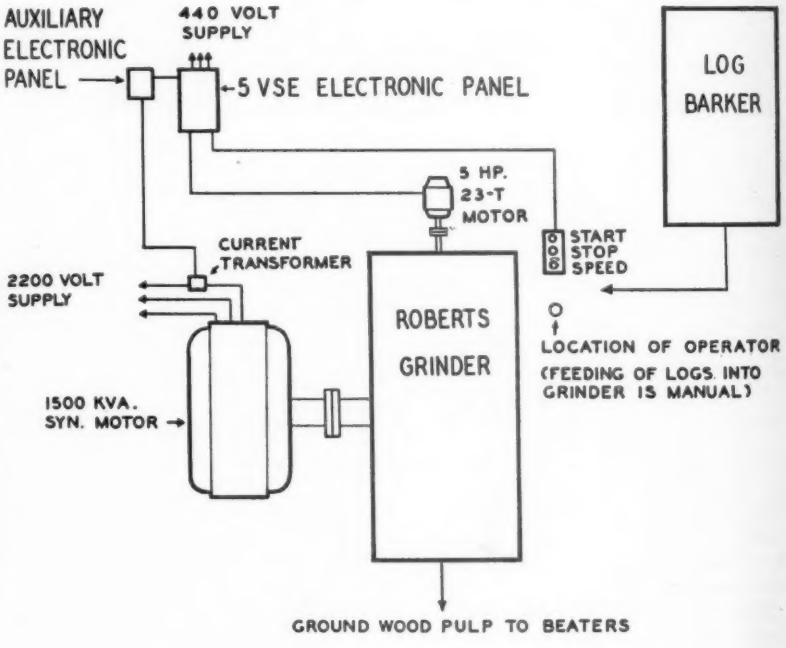
R. E. HARTMAN, President of Mobile Paper Mill Co., and pioneer in Southern industry. Starting in 1906, as Secretary of M. F. Dickinson, Sales Mgr. of E-Z Opener Bag Co., South Bend, Ind., he went a year later with Mr. Dickinson to the Taylorsville, Ill., mill. In 1912, Mr. Hartman became Manager of a bag plant at Orange, Tex., where sulfate pulp from pine was first made in the South. In 1916, he went to Braithwaite, La., as Asst. Mill Mgr. and a year later became Manager. He participated in construction of the Tuscaloosa, Ala., mill in 1928 and took over the Mobile mill in 1932.

Purpose of Roberts Grinders

To produce between 30,000 and 35,000 tons of groundwood annually, or from 100 to 120 tons per day, all of which will enter into the production of special groundwood board, the mill has installed one, and will soon install a second, Robberts grinder.

This ring type grinder was introduced in 1941 and consists of a 10-foot diameter cast steel ring with a false inner ring with teeth on its surface for gripping the wood. The solid outer ring has attached to it a worm gear for driving. The drive is on top of the unit. The ring rides on Ryertex bearing blocks ground to the same radius as the outside of the rings. These blocks are distributed equidistantly along two grooves in the bottom saddle casting. They also fit into machined and polished grooves in the periphery of the ring and thus act as both radial and thrust bearings.

In operation the ring rotates clockwise, the teeth on the inner of false ring catching and forcing pulpwood against a 54 by 54-inch Carborundum artificial grinding stone mounted concentrically to the ring and rotating in the same direction. Shower water used to clean and cool the stone carries the ground-



RELIANCE ELECTRONIC FEED DRIVE
APPLIED TO ROBERTS PULPWOOD GRINDER

wood out through two spouts. The wood is either carried through holes in the false ring or doctored to the sides and escapes through the clearance between the stone and side plates.

Increased production and greater uniformity in quality of output are advantages gained in the new ultra-sensitive feed drive incorporated in the Mobile mill's Roberts grinder. This new development is devised to meet the condition created as the pulpwood logs introduced through the grinder charging door and (of varying density and diameter) rotate and shift in position, tending to vary the loading of the grinder.

As uniform high output of the machine depends upon stable loading of the grinding wheel, the speed of rotation of the feed must be continually adjusted in accordance with the fluctuating conditions within the machine.

The actuation of the feed ring is accomplished by a 9.225-inch pitch diameter worm gear which engages teeth on the outside diameter of the ring. Heretofore the worm gear has been driven through a gear reduced by a fluid motor supervised by an automatic load control valve.

HERE'S DESCRIPTION OF INSTALLATION WHICH TAPPI HEARD ABOUT

Many readers of PULP & PAPER Industry who attended the New York Paper Week last February attended the TAPPI Engineering session at which a most interesting presentation was made of the advantages of self-contained spot conversion "packaged" units over the common motor generator installation for adjustable speed drives in pulp and paper mills.

A further advance was briefly mentioned by Richard R. Nelson, Kimberly-Clark process engineer, at that session—the use of electronic spot conversion variable speed drive for a Roberts grinder feed mechanism.

PULP & PAPER Industry, in this article, brings to its readers an illustrated description of just such an installation at the Mobile Paper Mill Co. Also Mr. Nelson's complete paper is published immediately following this article.

Reliance Application

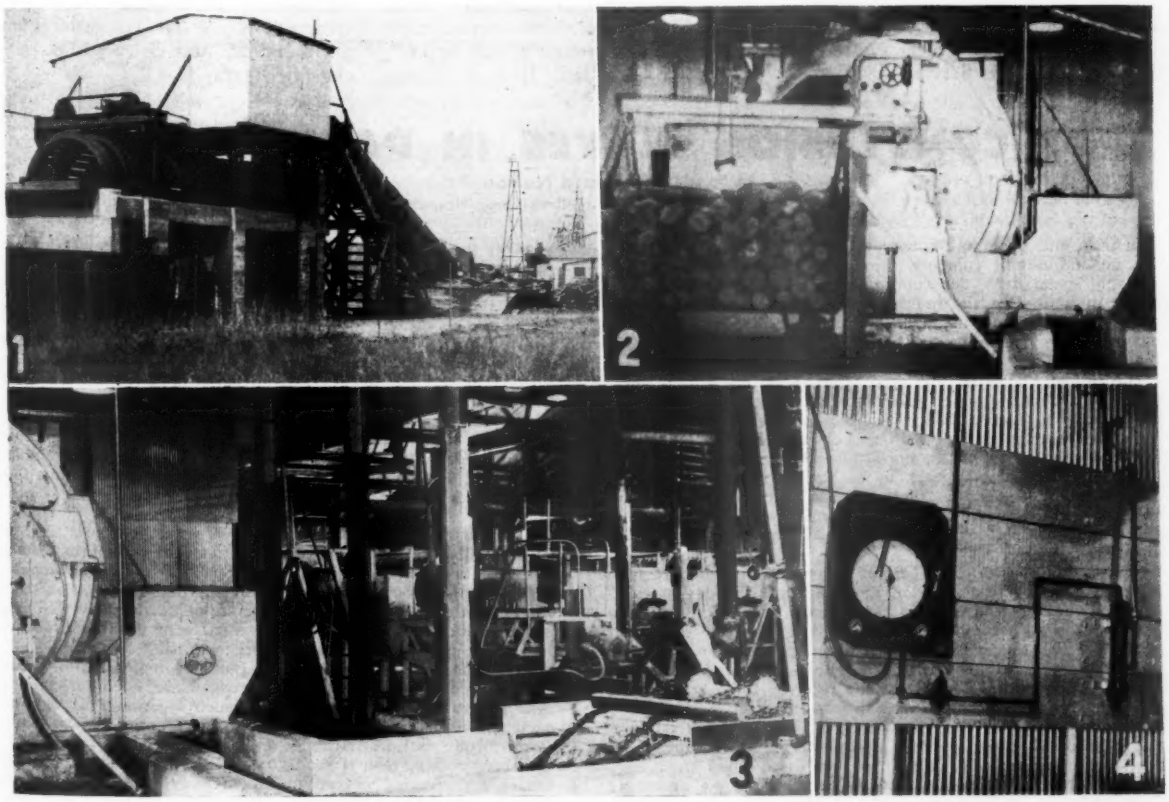
The Reliance electronic feed drive applied to the Mobile mill's Roberts grinder provides, however, a new high sensitivity of response for the feed mechanism.

The drive, designed by The Reliance Electric & Engineering Co. for Appleton Machine Co., utilizes a 5-hp. 1750-rpm. shunt-wound D.C. feed motor to drive the worm gear through a reducer. The motor is supplied in the Reliance electronic V*S system by a control cabinet drawing A-C current from a 440-volt supply line.

The V*S control cabinet houses a transformer to step down voltage for four grid control rectifier tubes, the output of which is varied by means of auxiliary vacuum tube circuits to vary the speed of the D-C feed drive motor.

This electronic variable-voltage system provides a fast-acting adjustable speed driving unit for feed ring rotation anywhere in a range of from 3 fpm. to 21 fpm.

A supervising circuit makes additional use of electronics for split-second reporting of grinder load variations to the above described



THESE PICTURES SHOW FLOW OF PULPWOOD at Mobile Paper Mill Co., Mobile, Ala.:

1. New Fibre Making Processes, Inc., barking drum.
2. Roberts Grinder supplied by Appleton Machine Co.
3. Grinder discharge to pit and bull screen, with Sandy Hill Iron & Brass Works flat screens at right.
4. Taylor recording instrument used with Roberts Grinder.

adjustable speed drive for action by the latter. This auxiliary circuit measures the armature current being drawn by the large grinder drive motor.

The grinder current signal is fed to the auxiliary control cabinet, where it opposes a fixed reference voltage set up within the cabinet. Any change in grinder load is thus reflected as an unbalance in the auxiliary circuit. This unbalance is fed to the V*S control cabinet, where it affects the speed of the feed drive motor so as to restore balance.

The electronic load control is operative at whatever setting is chosen for grinding load, and works in either direction to increase log feed as the load falls off, or to decrease feed in case of overload.

In operation the Reliance electronic feed drive works with remarkable speed to maintain the delicate balance of the ponderous equipment involved. The time required to detect incipient load variation and to restore the desired conditions is of the order of one second, as against approximately 30 seconds heretofore involved in load shift and recapture.

With such rapidity of supervision, the load has no chance to swing far from normal. A wattmeter record chart shows a typical two-hour operating period, first at 1500 kw. normal load, then at 1600 kw. normal load. Load can be seen to have been held to an average of 40 kw. or better, equivalent to under 3% control.

H. M. MORRIS, Superintendent of Mobile Paper Mill Co., Mobile, Ala.

Other Equipment

When the mill is running groundwood special board the stock passes from the Roberts grinder into a pit, thence through a bull screen to two Sandy Hill Iron & Brass Works (Hudson Falls, N. Y.) flat screens. It then passes through three mill designed deckers. From the deckers it may go either to stock chest or else to the beaters, of which there are three Dilts and one Shartle breaker-beaters. The jordan work is done by three Emerson and one Shartle Miami units.

In order to adequately service the greatly increased grinding capacity, the Mobile mill, which previously had relied on purchased pulpwood peeled in the woods, has acquired and installed a Fibre Making Processes, Inc., barking drum.

The mill has an efficient boiler plant with modern equipment including a Babcock & Wilcox unit fired by Ray gas burners. Special equipment to promote efficiency includes a Reliance Eye-Hye water gauge, and an Apex CO_2 automatic recorder that registers carbon dioxide content of the boiler stack. This CO_2 equipment is manufactured by Uehling Instrument Co., Paterson, N. J. Fireroom equipment also includes a Brown electric pyrameter.

Officers of the Mobile Paper Mill Company, Inc., include R. E. Hartman, president; D. L. Hartman, executive vice president and sales manager; J. W. Hartman, secretary-treasurer; H. M. Morris, general superintendent: and G. A. Miles, purchasing agent.

SPOT CONVERSION DRIVES IN PAPER MILLS

By Richard Nelson
Process Engineer, Kimberly-Clark Corp., Neenah, Wis.

In pulp and paper mills, there is an ever increasing demand for an individual, compact, flexible and smoothly-operating variable speed drive for rotating machinery. This demand is generally caused by the requirements for closer quality control and lower unit costs in paper products ranging from the conveyors in the wood room to the driving of machines converting the end product.

The proper choice of this type of drive is one of the many problems facing the paper mill engineer. There are many types from which to choose, both mechanical and electrical, depending upon the application, with the choice usually dictated by the load characteristics. In the latter category, the most popular in our industry appears to be the variable speed direct current motor. I say the "most popular" because it provides a smooth, stepless speed range, is convenient and simple for an operator to control, and has been proved in thousands of past installations.

In choosing the source of direct current with which to feed these motors, the first decision that confronts the design engineer is whether to install a large motor generator set with which presently or ultimately to feed a common source of direct current to several motors simultaneously or to use a spot conversion unit for each drive motor and thus isolate each drive. The former system is usually referred to as a "common M-G system" and the latter as a "packaged drive."

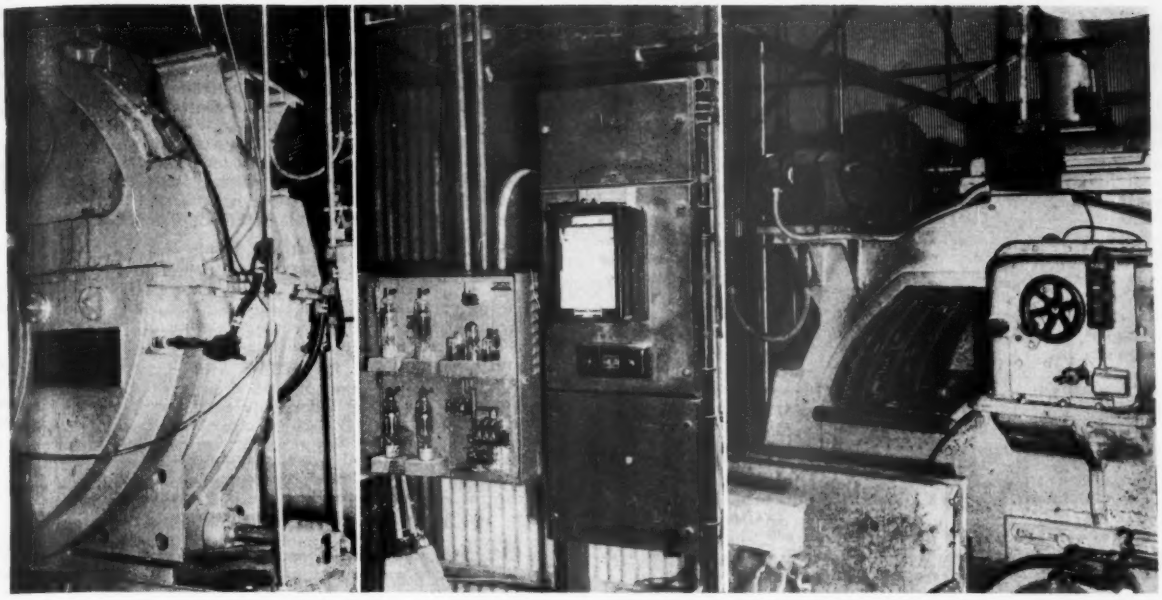
Although basically the two schemes are the same, namely, the speed of the direct current motors vary in accordance with the varying magnitudes of voltage impressed upon their several windings, there is a slight difference in their operating characteristics. In the common M-G system, the voltage output of the common direct current generator is held nominally constant; the speed of the direct current motor being changed by changing the amount of resistance in the motor's field circuit. The more resistance that is inserted in the field circuit, the weaker the field flux density becomes and the faster the armature revolves. Obviously, then, the slowest speed at which the motor will run is when the field is the strongest and conversely the fastest speed is when the field is the weakest for a given armature condition.

The horsepower output of a direct current motor operating under these conditions is nominally constant over its entire speed range, but the torque varies directly with the field strength. Another way of saying this is that the faster the motor runs, the less is its torque. It can be shown, then, that the faster the motor runs and the further it gets away from its basic speed, the poorer is its speed regulation. Speed regulation is defined as the difference between no load speed minus full load speed divided by full load speed expressed as a percentage.

Generally speaking, processing machinery such as is used in paper mills requires a driving torque that is approximately constant, regardless of speed. Therefore, since field-weakening direct current motors produce their minimum torque at their highest speed, the size of the motor is determined by the high speed condition and the motor is capable of producing torque in excess of requirements at lower operating speeds.

These inherent difficulties are largely overcome in the packaged or spot conversion type of drive. Here, each direct current generator can be operated in such a manner as to give each individual motor its best operating characteristics. Constant torque output may be realized by varying the motor armature voltage over a goodly portion of its speed range with the field delivering maximum flux density. The torque starts dropping off only on the upper portion of the speed range corresponding to those speeds above the basic speeds of the motor. The characteristics of each drive are then independent of one another and are not tied down by one part of a system.

Obviously, if the installation is going into an existing mill



CLOSE-UPS OF RELIANCE DRIVE equipment and Roberts Grinder at Mobile as described in this article and discussed in paper on following pages by Richard Nelson.

1. The Roberts Grinder. 2. Reliance electronic all-electric A-C adjustable speed control station with box open to show grid tubes at left and wattmeter recorder at right which records performances of grinder. 3. Reliance drive on top of Roberts Grinder, showing teeth on inside ring that catch pulpwood logs to force them against Carborundum stone.

which has unused direct current available from a common motor generator set, and the characteristics of this type drive as mentioned above are satisfied, it would be economically unwise not to use this capacity. However, in planning a new mill or an extensive expansion program as so many of us are presently doing, the spot conversion or packaged direct current drive system of speed control often offers many advantages that can be expressed not only in words, but also in dollars and cents. Let us, then, analyze further the comparison between the common M-G system and the packaged drive system.

Four Principal Considerations

Experience in variable speed drives for pulp and paper mill equipment acquired over a number of years has taught the writer that four considerations are paramount, namely:

1. Cost of installation. This point hardly needs to be elaborated upon since in any analysis of one general design over another, the final decision is usually made in favor of whichever one is cheaper. All other factors being equal, this is especially true of the machine drive since the most critical effect on the product being processed is due to the characteristics of the machine itself. An example of cost differences as applied to a new installation appears later in this paper.

2. Flexibility of re-use. It seems to be fairly inherent in the make-up of paper mill operators to be continuously searching for newer and simpler methods to arrive at the best end result. Paper and pulp mills of my acquaintance frequently replace or interchange process equipment in their search for these better methods. For variable speed drive machines using direct current motors fed from a common motor-generator set this changing about can become very costly.

If a straight block of direct current power is required for an addition of equipment, it is as likely as not that this will use up what extra or spare direct current capacity there is left in the system or even require the additional purchase of direct current conversion machinery larger than would be immediately required. While the extra capacity may be justified on the ground that it is simply today's anticipation of tomorrow's demands, it is just as likely that when tomorrow arrives, a different method altogether will be wanted. Since direct current power distribution in paper mills is generally less inclusive than alternating current distribution, power feed costs are increased to overcome line losses for a given or larger area inclusion. The point to be made, therefore, is that the packaged drive is much more flexible when machinery changes are to be contemplated. As obvious as this seems, it has often been overlooked in the past when planning installations of new equipment.

3. Cost of maintenance. There has been considerable discussion within the trade regarding maintenance on spot conversion units. It is true that there are more commutators to maintain and that commutating systems are the cause of more troubles than any other on a direct current drive. However, in one mill where both of the systems under discussion are present, it was found that the dollars spent for spot conversion maintenance were less, due in part, at least, to the fact that the large direct current generator associated with the common M-G system could only be worked on during a major mill shutdown. Since this rarely occurred, except over weekends, the work had to be done then—at premium labor rates.

The direct current generators associated with the packaged drives are smaller in size than their counterparts in the common M-G system and hence are easier to handle, both in installation and maintenance. For the number of packaged drives involved, a justifiable spare unit was available which could be installed in place of the offending set while it was worked on at the leisure of the maintenance department—and on straight time. Also, since lower current values are handled in the packaged system, the control elements, such as contactors, are necessarily smaller and so are subject to less maintenance.

4. Operating performance. This is rather inclusive, but does bear mentioning. The operating characteristics of the drives under discussion have already been given, but in choosing any kind of drive it is of the utmost importance that the load characteristics be considered. The variable speed drive classification embodies several types other than those under consideration here and they should not be overlooked in making a choice. However, it will be found that in the majority of cases, the packaged system herein discussed will satisfy the performance specifications required.

Having discussed briefly their general points of advantage, let us talk about some specific cases in pulp and paper mills where packaged direct current drives were chosen to do particular jobs and of one case where they were not. In the first case, a modern kraft mill was being designed where, among other components, there was to be a bleachery and a pulp washing department in rather close proximity to one another with the equipment in question located in a concentrated area. The process engineers who designed the equipment requested four individual 10 hp., 600 to 2300 r.p.m. variable speed drives for the brown stock washers and six individual 15 hp., 600 to 2300 r.p.m. variable speed drives for the bleach washers. It was specified that the drives should have good speed regulation, a constant torque, tapered horsepower load characteristic was recommended, and a stepless speed controller was to be provided for mounting on the operator's panel. These pieces of equipment are part of a continuous flow process in a mill that is geographically isolated, so that it was also specified that spare generator capacity as well as spare motor capacity should be included in the initial design.

Offhand, one would assume that either of the two schemes

RICHARD R. NELSON (left) of Kimberly-Clark and two engineers of The Reliance Electrical and Eng. Co., of Cleveland, made a timely report on self-contained "packaged" spot conversion drives for adjustable speed and on economies of these set-ups in talks before TAPPI in New York in late February.

Mr. Nelson, in this article, cites four advantages which packaged units have over the common motor generator system: (1) lower initial cost; (2) flexibility of re-use; (3) lower maintenance cost, and (4) better operating performance.

He cited uses of packaged units for a kraft mill with bleachery and pulp washing in close proximity. Also, he cited a decision for such units to drive a screw conveyor discharging chips.

At the end of his article, he notes that electronic spot conversion variable speed drives are favored for Roberts Grinders, as in the installation at Mobile described in the preceding article.

under discussion would meet these requirements; that the only point of argument as regards performance would be the one of speed regulation. To operate the common M-G system over the specified speed range would require the individual motors to operate with a progressively weaker field as speed increased. This then, would contribute to a progressively poorer speed regulation. We found from the catalogs that the direct current motors associated with the packaged drive operated with a basic speed of 1150 r.p.m. which means that armature control is used up to this speed and field weakening only in obtaining speeds beyond this. In other words, the weak field speed range is less on the latter system. This, then, was one distinct advantage in favor of the packaged drive as far as the basic requirements were concerned, since all of the other specifications could be met with either system.

Spare generator capacity for the common M-G system would be handled as follows: Since the pulp washing motors required an aggregate of power necessitating a 30 kw. M-G set and the bleachery a 75 kw. set, if each department were furnished with a 100 kw. M-G set, both departments could operate adequately off of either one if the odd set were down for repairs. Spare motors in each size would also be required. For the packaged drives, one complete 15 hp. variable speed unit, consisting of M-G set and d-c. motor, plus a 10 hp. d-c. motor, would take care of any trouble.

Armed with this design, the labor and material costs of the items required in a common M-G system were estimated as follows:

Table I—Installation Cost—Common M-G System
(Overhead and Supervision included in Figures)

	Material	*Labor*
2—100 kw., motor generator sets	$ 8,600	$ 500
2—Generator motor starters	580	100
2—Generator disconnect switches	540	50
2—D-C control panels	2,000	300
4—10 hp., 230 volt pipe-ventilated motors	3,200	100
6—15 hp., 230 volt pipe-ventilated motors	5,820	175
10—Motor field rheostats	500	50
10—Push buttons	40	40
2—Motor generator set foundations	200	400
Control engineering		200
D-C motor wiring	980	3,000
Generator wiring	200	300
Generator motor wiring	200	300
Cooling system	800	1,000
Spare 15 hp., d-c motor	970	
Spare 10 hp. d-c motor	800	
	$25,430	$ 6,515
Grand Total		$31,945

Due to the corrosive chlorine atmosphere, it was decided to pipe-ventilate the direct current motors and to place the M-G sets and control in a ventilated room nearby. The room is not included in the costs since it was already available for an alternating current unit substation. Using current U. S. material price quotations and unit cost data from a large private electrical installer, the total cost for the installation worked out to $31.945 as detailed in Table I.

With the same end result in view, a similar estimate was prepared, using the spot conversion system of variable speed drive. This was based upon utilizing rotating machinery for converting from alternating current to direct current and the detailed estimate was made up of the following components:

Table II—Installation Cost—V-S System
(Overhead and Supervision included in Figures)

	Material	*Labor*
4—10 hp. packaged drives	$ 5,000	$ 200
6—15 hp. packaged drives (each consisting of a-c. control, M-G set, exciter, d-c. control, and pipe-ventilated d-c. motor	9,000	300
D-C motor wiring	980	3,000
Packaged drive foundations	200	300
Cooling system	800	1,000
Spare 10 hp. d-c. motor	450	
Spare 15 hp. packaged drive, complete with spare 15 hp. d-c. motor (conversion and control equipment for the unit is suitable to feed any of the d-c. motors in the system.)	1,500	
10—200 amp. safety switches	650	150
Packaged drive a-c. motor wiring	795	1,265
	$19,375	$ 6,215
Grand Total		$25,590

As can be seen from Table II, the packaged or spot conversion system estimate adds up to $25,590. For this case, there is, therefore, a saving of $6,355 or 20% in favor of the spot conversion scheme.

Analyzing the two estimates shows that while the direct current motor wiring, foundation, and cooling systems are about the same in both cases, the largest tangible differences are to be found in the conversion from alternating to direct current, in the motors and controls and in the spare capacity. The packaged drives are higher in the alternating current wiring because there are more units to be connected. For this particular installation, then, the spot conversion units were selected on a basis both of the intangible advantages and the actual saving of 20 per cent in cost.

It should be pointed out that the fullest advantages of the spot conversion units were not realized in this case due to the atmosphere the individual M-G sets and their attendant controls were not located at the machines in question. Had they been so located, it is probable that there might be additional slight savings in wiring costs, but since they were still relatively close, this is problematical and no advantage for this factor is claimed. However, were the electrical substation room mentioned above 200 or more feet distant from the direct current motors in question, it would undoubtedly have proved less expensive to install the M-G sets immediately adjacent to the drives as the term "spot conversion" suggests.

A second case where a decision had to be made between the common M-G system and the spot conversion system arose in the design of this same mill. After having made the above comparison, however, the choice of the packaged drive was so evident that it hardly provoked any discussion.

At the far end of the mill adjacent to the wood room it was desired to have a variable speed drive on a screw conveyor discharging chips from a chip bin. Normally, this might have been the place for a wound rotor alternating current motor. However, it was specified that the speed range should be in a 4-to-1 ratio and, since ordinary wound rotor motors are not recommended where the speed ratio exceeds 2 to 1, the direct current motor was chosen for driving the conveyor.

Had a central direct current system been chosen for this mill, it still would have been problematical whether or not power from it would have been used to drive this motor which was located over 600 feet from the logical location for a common M-G set. The increased copper sizes necessary to overcome the line losses on a run such as this could be charged only to that one installation and hence the packaged drive again became the economic choice. A comprehensive alternating current distribution system throughout the mill made it very easy to mount the conversion unit and the direct current control near the drive and thus have a truly packaged, spot conversion installation.

A case where another type of variable speed drive was chosen is worthwhile mentioning to show that the four factors

outlined earlier in this paper should be considered in every instance. The problem was presented in much the same fashion as those previously discussed, but this time two vacuum thickeners were involved. However, upon quizzing the operators more closely it was discovered that the constantly variable speed which had been specified was not necessary since entirely adequate operation could be expected with the thickener operating at one of four constant speeds. It was suggested and later approved that four-speed a-c. motors be used on these machines, since the four standard speeds of such a motor (namely 1800, 1200, 900, and 600 r.p.m.), would satisfactorily cover the desired range. Maintenance also came in for some consideration in this case when it was pointed out that too frequent operation of the necessary four-speed motor contactor would increase contactor maintenance to the point where it might become excessive, cost-wise. When, however, assurance was given that the cycle of speed change would be a matter of days rather than minutes, this objection was eliminated. With, therefore, all operating characteristics satisfactorily met, the cost of the installation became the determining factor in its choice.

So far, this paper has dealt with rotating machinery as the means of converting from alternating to direct current. However, we must not overlook the fact that the motor generator set has a kid brother just trying on his first pair of long pants. This is the electronic rectifier. Several manufacturers have these units on their assembly lines under various trade names, but it is interesting to note that they all follow the spot conversion scheme of presenting energy to a direct current motor. A discussion of this type of packaged drive is too large an undertaking to do it justice here, but one or two characteristics as applied to pulp and paper mills with which the writer has had experience may be worth mentioning briefly. The greatest advantage of the electronic type unit over any other system is its ability to take its control from literally anything. Motor speed may be caused to be changed either manually by turning a rheostat knob or automatically by variations in mechanical or electrical parameters.

One recent application of the electronic spot conversion variable speed drive was to the feed mechanism of a Roberts grinder. This should prove especially interesting to those paper mill operators who generate their own power. Since the groundwood electrical load is a major part of the mill load, grinder load swings usually require considerable attention on the part of turbine room operators. In this new application of an old principle, the change in grinder motor load current causes an opposite change in feed motor speed, thus tending to hold the load constant within the limits designed into the electronic control circuits. The electronic control, plus the features of spot conversion done up in a package, promise to hold the answer to many paper mill control problems. It is the opinion of the writer, however, that at the present time, mill electricians generally lack the technical know-how required for 100 per cent satisfactory maintenance. That proper job training is required is realized and should go far towards popularizing industrial electronics.

Whether it is the choice of the paper mill engineer to use electronic or rotating machinery methods with which to convert his direct current, it is felt that by tackling variable speed drive problems by using the four points mentioned earlier—(1) initial cost, (2) flexibility, (3) maintenance cost, and (4) performance—the answer will more and more come out in favor of the spot conversion, packaged drive system of speed control.

W. IRVING OSBORNE, one of the new Directors of Spaulding Pulp & Paper Co., Newberg, Ore., is President of two paperboard and pulpboard manufacturing companies which are among the new principal owners of the Newberg mill. These are Cornell Wood Products Co., Cornell, Wis. (175 tons a day), and Hummel & Downing Co., Milwaukee (200 tons a day). Eastern paper companies which are now the new principal owners of the Spaulding Pulp & Paper Co. in Newberg, Ore., as reorted in these pages a month ago, stress the point that they have long been among principal customers of the Oregon 80-ton-a-day unbleached sulfite pulp mill.

Mr. Osborne told PULP & PAPER Industry: "We have been purchasing pulp from Spaulding for a great many years and we were very pleased to have the opportunity to become interested in the company and thereby become even more closely associated with the pulp and paper industry on the Pacific Coast."

Other new owners include St. Regis, Riverside, Watervliet and Morris Paper Companies and Perkins-Goodwin Co.

JACK LEISER, of Pioneer Wrapping & Printing Co., Los Angeles, recently elected Secretary of the Southern California Paper Mill Men's Club, succeeding Ben Bahnsen of California Cotton Mills, who resigned because of moving away from Southern California.

BIRD MACHINE COMPANY, South Walpole, Mass., has added to its staff these two sales representatives, both with wide experience in pulp and paper manufacturing. They are ALEXANDER JENKINS, Jr. (on left) and VERNON L. TIPKA. Mr. Jenkins will be based in the east and Mr. Tipka at the Evanston, Ill., office.

Mr. Jenkins was Purchasing Agent for Hollingsworth & Whitney Co., including a period at the Mobile, Ala., mill during its construction.

Mr. Tipka was with Crown Zellerbach Corp., Hawley Pulp & Paper Co. and recently was Mill Manager of Paper Corp. of America at Cheboygan, Mich., after wartime service in the Army Quartermasters' office on fine paper procurement and as Assistant Chief of the CPA Pulp and Paper Branch in Washington, D. C.

DR. ALLEN ABRAMS, Vice President in Charge of Research, Marathon Corp., Rothschild, Wis., stressed the importance of research in a featured address before the Chicago Section of TAPPI (formerly the Chicago Professional Paper Group) at the Chicago Bar Association on April 21.

President W. E. Brawn of TAPPI and Kenneth Geohegan, head of TAPPI's Section Committee, were other prominent guests.

Paperboard Convention Hears Warning by Dyke

George E. Dyke, president of the National Paperboard Association, addressing the group's April convention in Absecon, New Jersey, said all the U. S. board mills "have enough orders on hand for all they can produce in the foreseeable future, but there is no guarantee that this situation will continue or that orders on hand are always translated into sales."

"In the past," he said, "we have seen the bank of orders melt away, suddenly and without advance warning. Just ten years ago, and well within our memory, the average days to run for the paperboard mills dropped from 15.7 days in April 1937 to 3.7 days in December 1937.

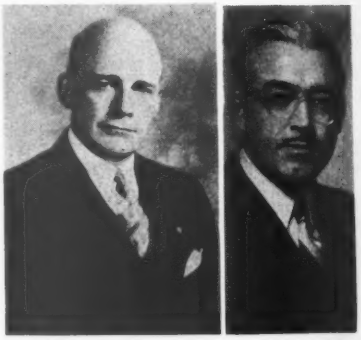
"Also in the year 1937 activity figure dropped from 91% in April to 47% in December and production dropped from an average of 126,800 tons per week in April 1937 to an average of 66,200 tons per week in December 1937."

Grafton Whiting, statistician of the Association, said:

"An analysis of the capacity of the new paperboard machines now being built shows that there are 12 machines having a weekly capacity of 7,200 tons for jute production and 5 machines with a capacity of 10,300 tons per week for kraft, a total of 17,500 tons. Of this, 1/3 is scheduled for operation before July 1st; ¼ by November 1st and the remainder (nearly ½) by the end of the year. An estimate of the total additional output to be anticipated for this year is about 250,000 tons. Too much faith should not be placed in the date schedule as many construction difficulties are being encountered. By advancing the weekly figures to a yearly total, it is found that by 1948 there will be an added capacity in excess of 850,000 tons or more than 10 per cent over that of 1946. Such an increase would anticipate the annual growth factor by more than a year and a half."

J. HAROLD FALLS (left) of Vancouver, B. C., has been named townsite manager for Pacific Mills, Ocean Falls, B. C., and JOHN A. WHITTAKER (right) Welland, Ont., has been appointed head of the company's industrial engineering department.

Mr. Falls, previously engaged in the construction business with his father, was attached to the Royal Canadian Air Force as works and building superintendent at Alberta flying schools. Mr. Whittaker was in industrial engineering field with Joseph Stokes Rubber Co., at Welland, Ont., before and after being in production of Bofors anti-aircraft guns at Hamilton, Ont.



GEORGE G. COBEAN (left), President of Bulkley, Dunton Co., S. A., back from European trip. On right, HARVEY A. BROWNELL, recently appointed Vice President of Bulkley, Dunton & Co., Inc., who continues in charge of social stationery and greeting card papers and in addition will supervise display paper division.

Southern Officials Hear Of Stream Research

Evidence of progress in the handling of problems relating to waterways affected alike by the public and industries was revealed in a meeting of the Southern Section, National Council for Stream Improvement, held at Edgewater Park, Miss., on April 17. Approximately 40 persons represented 20 southern pulp and paper mills, association and technical advisers, and the state regulatory bodies attended.

The morning session was devoted to an industry panel discussion of the public relations problem, which is made more complex because of the great diffusion of the industry and introduction of factors of policy rising from what other involved industries might or might not be doing in the same field, as also the public's adverse treatment of streams. The afternoon session included a free discussion of the problem and the industry's program for betterment by representatives of state bodies and industry spokesmen.

An official statement released to the press reviewed participation in the program of 90% of the South's industry. It referred to research being conducted by two prominent institutions, and said that "already data of basic nature have been obtained" by the research project at Louisiana State University which is devoting its attention to problems common to Southern mills.

Judging from the afternoon's discussions, it is apparent that the serious work being conducted under the auspices of the National Council is well understood and appreciated by the southern regulatory bodies. These spokesmen evidenced a keen differentiation between the established mills and those seeking sites, indicating that the latter class will not be permitted to create new problems.

Industry representatives participating in the meeting included the following:

W. F. Gillespie (presiding) and J. E. Sapp, of Gaylord Container; Tom Walker, A. Nelson Chandler and A. W. Pesch, of International Paper; Robert B. Reynolds, Hollingsworth & Whitney; Karl M. Guest, National Container; U. J. Westbrook and L. L. Clapp, Florida Pulp & Paper Co.; Norman O. Gibbs and Conley Brooks, Brooks-Scanlon, Inc.

Russell L. Bullock, National Gypsum Co.; C. H. Westphalen and Robert M. Boehm, Masonite; George E. Scofield, Rayonier Incorporated; K. O. Elderkin, Crossett Paper Mill; M. L. Taylor, Union Bag and Paper Corp.; C. C. Porter, Southland Paper Mill; S. L. Swasey, The Champion Paper & Fibre Co.; H. E. McLaughlin, Newport Industries, Inc.

Paul S. Fensom, St. Joe Paper Co.; E. J. Gaynor III and Malcolm Pineo, Brunswick Pulp & Paper Co.; J. W. Mustin and P. H. Fuller, Gulf States Paper Corp.; W. P. Newman, Jr., Southern Advance Bag & Paper Co.; George M. Dickinson, Sonoco Products Co.

Dr. Harry W. Gehm, Russell L. Winget of the National Council; and W. A. Maggio, Louisiana State University.

THREE NEW MILLS START UP IN WESTERN WASHINGTON

Three new mills started up operations in Western Washington this spring.

They are an insulating board mill at Shelton, a newsprint mill at West Tacoma and a container board mill at Bellingham.

First news was run on the rebuilt Pusey & Jones machine at West Tacoma on May 10, just a few days less than one year since the long-idle book mill at that Puget Sound location was purchased by a group of 14 Pacific Coast newspapers, organized as the West Tacoma Newsprint Co. Cellulose Engineers, Inc., put the mill in shape with considerable new equipment and the first shipment was an excellent quality of news which went to the Tacoma News-Tribune.

First run of paperboard on a new mill of 40-tons rated capacity at Bellingham occurred on May 9. A five-cylinder board machine was brought from New York and installed at the new plant of the Bellingham Paper Products Co., which affiliated with Puget Sound Pulp & Timber Co. and utilizes a small portion of its unbleached sulfite pulp production.

More than a month before these two mills started up, the Simpson Logging Co.'s new insulating board mill at Shelton, Wash., got under way. This mill, first of its kind in the west, was running a fine quality standard board as this issue went to press.

First runs of newsprint at West Tacoma were made with 12% unbleached sulfite and the remainder groundwood. The groundwood was made at the mill. Wood supply for this mill is purchased from various sources in western Washington.

Frank Baker is president of the newsprint company and his son-in-law, George Russell, is vice president and treasurer. They publish the Tacoma newspaper. The thirteen other participating newspapers are in various coast cities as far south as Los Angeles and San Diego.

William J. Edwards is superintendent, Harold Pierce is office manager, and D. A. Welch is forester.

The new paperboard mill in Bellingham marks first local utilization of pulp from the big pulp mill there.

Lawson Turcotte is president of both companies. Joseph O'Reilly, former manager of a Tacoma, Wash., board mill, is manager of the Bellingham mill and is associated with Puget Sound officials as a director.

A. Nadeau, formerly connected with eastern board mills, is the superintendent of the new Bellingham plant.

The one-machine mill's production will be divided among the San Francisco Chronicle, Oakland Tribune, Los Angeles Times, Sacramento Bee, Fresno Bee, Modesto Bee, San Diego Union-Tribune, Bellingham Herald, Everett Herald, Yakima Herald-Republic, Olympia Daily Olympian, Aberdeen World, Eugene Register-Guard, and the Tacoma News Tribune.

Simpson Mill

The Simpson Logging Company's new insulating board mill at Shelton, Wash., after some trial runs in March, got into production at partial capacity as of April 1.

It probably will be around July 1 before coating of the board, tile making and other additional processes are being operated. Coating equipment had arrived at the mill but deliveries were still awaited on some of the finishing equipment.

When the mill gets into full initial operating gear this summer it will produce in excess of 200,000 sq. ft. of board per day. The board is made on a Downingtown machine and the pulp is prepared in Babcock & Wilcox rotary digesters and Bauer Brothers disc pulpers.

C. J. Macke is vice president in charge of manufacturing in the new board plant which has the vast wood resources of the Simpson Logging Company behind it and will use what used to be considered waste wood, from the 100-year logging tracts operated by Simpson on its own holdings and National Forest lands. William McKenzie, director of engineering, and Marion F. Smith, director of research, are serving under Mr. Macke.

Robson Heads Up All Port Alberni Operations

C. Y. Robson, who was appointed resident manager at Port Alberni, B. C., in January, 1946, has relinquished his direct interest in lumber sales to devote all his time to the company's enlarged operations there. Besides lumber and shingle mills, a new kraft pulp mill is near completion. Sales policies affecting all the company's products will be coordinated under Robert Laird as general sales manager. Pulp mill operations executives will be named later.

The Mead Sales Company has been appointed agent for sales in the United States for the pulp division, and Price & Pierce for pulp sales in the United Kingdom.

Mr. Robson, Ontario-born and Harvard-educated, joined Bloedel, Stewart & Welch in 1924 as a log scaler at Myrtle Point and ten years later was appointed sales manager for the lumber division, at Port Alberni.

New Bloedel Mill Employes To Have Pre-Fab Homes

The most extensive prefabricated home construction program ever undertaken on Vancouver Island is currently under way at Port Alberni, B. C., for employes of rapidly expanding operations of Bloedel, Stewart & Welch, Ltd.

The Bloedel organization plans this summer to have its new kraft mill in production.

Each wall, partition, roof and combination kitchen and bathroom housing unit will be completed separately and assembled. There will be 30 different types of houses in the subdivision.

PROGRESS ON NEW BLOEDEL, STEWART & WELCH kraft pulp mill at Port Alberni, Vancouver Island, B. C. This mill will be going into production late this summer, it is expected. In foreground, the office. Behind the office is the machine room. And behind the machine room, the seven white circular silos for chip storage. Framework of recovery and evaporating units are up at right. Smoke rising in distant background at left is from stacks of the Bloedel sawmill. Conveyor system will carry chips from sawmill to pulp operation.

NEW CELANESE MILL WILL MAKE BOTH KRAFT AND SULFITE PULP—500 TONS

The new Celanese Corp. of America subsidiary mill for the Prince Rupert area in British Columbia takes greater importance as plans have been broadened to build a 200-ton bleached kraft pulp mill as well as a 300-ton bleached sulfite mill on the new Port Edward Island site. It will be one of the biggest pulp operations in the world.

A flow sheet for the new mills is now being worked out by engineers representing Celanese and Stadler, Hurter & Co., Montreal consultants, who have been engaged to draft the design of the west coast's newest mill.

A party representing Celanese Corp. and the interested engineering groups visited Port Edward in mid-May to complete preliminary planning. They were also warmly welcomed on tours of large pulp mills in Washington State. They drove from Seattle to Vancouver, B. C., and sailed from there on May 15 for Prince Rupert.

The party was headed by George Schneider, vice president and technical director; and included S. B. Roberts, chief engineer; C. H. Klotz, construction project engineer who will remain in charge of developments at Port Edward; R. A. Seymour, head of the company's pulp technical taff; R. S. Baker of Quebec, an advisor on pulp bleaching processes; A. T. Hurter, of Stadler, Hurter & Co., and D. G. Stenstrom, Vancouver, B. C., who has been consultant to the Celanese Corp. during the early stages of planning and who had carried on most of the negotiations in connection with timber rights.

It is expected that an early sequel to the visit by this group will be the calling of tenders for various phases of the construction program, which will get under way during the summer. The ground is already being cleared, and considerable rock excavation is now being done on a contract basis.

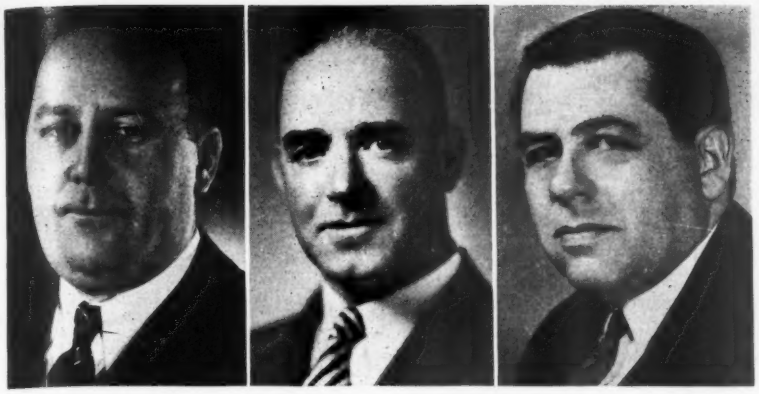
Celanese Corp. is the first company to operate from the inception of its activity in British Columbia in accordance with the terms of the new forest management licenses being issued by the provincial government for sustained yield. Minister of Forests E. T. Kenney, who successfully piloted the new forest legislation through the provincial house in April, says that there have been about 40 applications for these licenses in various parts of the province, but they are all from companies which have operated in the past under the old regulations. Celanese, alone, is starting out as a sustained yield operation.

HERE IS SHOWN location of Celanese Corporation of America's new mill and water source at Prudhomme Lake.

The British Columbia government is not ready to divulge at present the amount of timber reserver for Celanese Corp., but unofficially it is estimated at about 2000 square miles. The company has bought all Watson Island, about 207 acres. The mill will be near the south end of the island and will be operated under the subsidiary company, Port Edward Cellulose Co., Ltd.

Mr. Stenstrom tells PULP & PAPER Industry that during the first five years of operation the mill, which is to have a capacity of about 250 tons of high grade bleached sulfite pulp daily, will obtain adequate quantities of pulpwood by short-haul trucking or the conventional A-frame setup along the waterfront fairly adjacent to the mill site.

However, Mr. Stenstrom expects that eventually a large proportion of the company's wood requirements will be floated down the Skeena River in drives similar to those in eastern woods. About 40 miles of the river's course would lend itself to this form of transportation and Mr. Stenstrom, who has had many years of executive experience with some of the largest pulp and paper corporations in British Columbia, believes that many operators in the west have neglected the river drive's possibilities. At present, the upper reaches of the Fraser and sections of streams in the Revelstoke country in western Canada have been utilized for driving logs, but to a limited extent.



OFFICERS OF CELANESE CORP. OF AMERICA, who are entering Pacific Coast pulp industry as builders of new sulfite pulp mill near Prince Rupert, B. C.

Left to right: HAROLD BLANCKE, President; GEORGE H. RICHARDS, Vice President and Treasurer, and GEORGE SCHNEIDER, Vice President and Technical Director. This trio planned to visit site of new mill.

Canadian Celanese Expands Rayon Facilities

Canadian Celanese, Ltd., subsidiary of the Celanese Corp. and a big operation in its own right, has announced plans for a $4 million plant at Sorel, Quebec, for manufacture of spun rayon yarns and fabrics.

It is planned to integrate the Sorel plant with the Drummondville, Quebec, chemical yarn, fabricating and dyeing plants. Last year the company was able to get its new staple fiber plant at Drummondville into production, and this will be able to supply the entire demand of Canadian mills for acetate staple. This makes Canadian Celanese the first producer of rayon staple fiber in Canada.

Expansion in Ohio

Harry R. Rozin, vice president in charge of sales, Loroco Industries, Inc., Reading, Ohio, paper manufacturers and converters, announces additional machinery is being procured to enlarge the capacity of both the mill and converting plant.

NYU'S PULP AND PAPER SCHOOL—RESUMES IN FALL

PART OF THE 600 MEN AND WOMEN attending New York University's course in Pulp and Paper during the current school year. This picture was taken by PULP & PAPER Industry's photographer from the stage of the Concert Hall of Barbozon-Plaza Hotel, New York, where classes were held every Thursday night.

In inset at left, HAROLD M. ANNIS, Oxford Paper Co., permanent chairman and moderator of the course. He selects speakers and subjects. On platform with him when pictures were taken were (at upper right): BYRON WHEMHOFF (left), West Virginia Pulp & Paper Co., and ROBERT H. SIMMONS, Govt. Printing Office, who discussed paper testing and printing service problems.

Fifteen sessions were held this past fall and winter. Other courses are planned next fall. Prof. Sydney Roth is in charge for NYU. Among those who appeared on programs are Vance Edwardes, International Paper Co., Palmer, N. Y.; John B. Calkins, Union Bag & Paper Corp.; Dr. Louis Stevenson, APPA; J. M. Malcolmson, Robert Gair Co., and R. G. Macdonald, TAPPI.

Finch, Pruyn Demonstrates Flexibility In Changeover to Higher Quality Papers

On Jan. 1, 1946, Finch, Pruyn and Company, Inc., Glens Falls, New York, discontinued the manufacture of newsprint, announcing that it would carry on its groundwood specialty grades and add new ones of higher quality. This was to be accomplished by installation of considerable new equipment in an engineering layout which would make this historic mill among the most modern of its kind.

The mill alterations and a substantial part of the new equipment are now a reality and operating on the highest quality, high groundwood content paper for publications, books, converters, school and office supplies and other uses. Several steps in the modernization program are still in process of completion, such as the installation of direct drives on the deckers, and the partial rebuilding of the No. 3 machine whose width will be changed to 142 inches. This rebuilding, by Sandy Hill Iron & Brass Works, of nearby Hudson Falls, includes head boxes, slices and wet end. A new smoothing press and additional driers are contemplated. The 80 and 110-inch machines were reconditioned some time ago. A groundwood bleaching plant will be installed late this year, using Solozone as the bleaching agent for bleaching at high density. No changes have been required in the grinder room which was completely rebuilt in 1934 when ten new Great Northern type grinders were installed.

Chief interest, however, is centered on the screening and refining systems now successfully operating at Finch, Pruyn. Representing the combined thought of plant organization, consulting engineers, and several machinery companies, these are important forward steps in paper mill modernization and are being watched with interest by the industry.

Screening and Refining

The screen layout is of particular interest and has made the maximum use of gravity feed and thus eliminating considerable mechanical pumping. A bank of three Jonsson knotter screens have been installed on a deck which is directly above five new Impco primary screens. The latter in turn are above two Impco tailer screens situated on the main floor. All tile work in the modern screen layout is by Stebbins. Screens are operated direct-drive by GE motors, and it is planned that the deckers, tiled by Stebbins, and furnished with new rubber rolls, will soon be direct driven by twelve gear-motors. All chests and vats are Stebbins tile-lined and pulp moves through Transite pipe throughout. Pumps are Ingersoll-Rand.

In its refining layout Finch, Pruyn is pre-treating its sulfite requirements before mixing with the groundwood. The older beater room has been dismantled, and now up to 45 tons of completely treated pulp can be processed to serve the three paper machines. Admixture of pulps and chemicals is controlled by remote hydraulic valves and measured by Taylor instrumentation. Size is measured in through a Bowser meter, and at a later date other chemicals are to be measured through a metering system. In this fashion the preparation of furnishes for the paper machine is controlled by an operator at a panel board, making for compact and precise regulation.

Sulfite pulp is disintegrated in the newly installed 14-foot Dilts Hydrapulper, then pumped to a chest from which it may be pumped in turn through two Morden Stock-Makers set up to operate either in series or parallel operation. It follows then to three sulfite treated pulp chests, one for each of the three machines. Flow is remotely controlled in the operation, and propeller agitation is provided in the chests. The sulfite slushing and pre-treatment panel board is divided into units representing the indicating and control equipment corresponding to each stage of the treatment. Thus there are divisions affecting the Hydrapulper, No. 3 sulfite chest, No. 2 sulfite chest, storage chest, and No. 1 sulfite chest, in that order from left to right on the panel board.

The preparation of the machine furnishes is made in the vertical mixing chests, one to each machine, to which can be flowed any quantity of the two grades of groundwood and the sulfite pulps specifically treated for the machine involved. A wide range of stock furnish is possible, and the new groundwood peroxide bleach will further increase the versatility and flexibility of the system. Before reaching the paper machines the stock is treated by small high-speed E. D. Jones jordans, installed two for each machine and operating in parallel.

The paper mill organization executives brief the advantages of the system as follows: Pre-treatment of the sulfite alone results in considerable advantages in developing pulp characteristics that are desirable. The pulp, they say, has been treated to a degree that is optimum for the particular paper being made on the individual machines. The remote control of furnishing, they point out further, has resulted in overall observation of the process from one vantage point in the mill. With the latter advantage is combined instrument records, and a continuous record of variables.

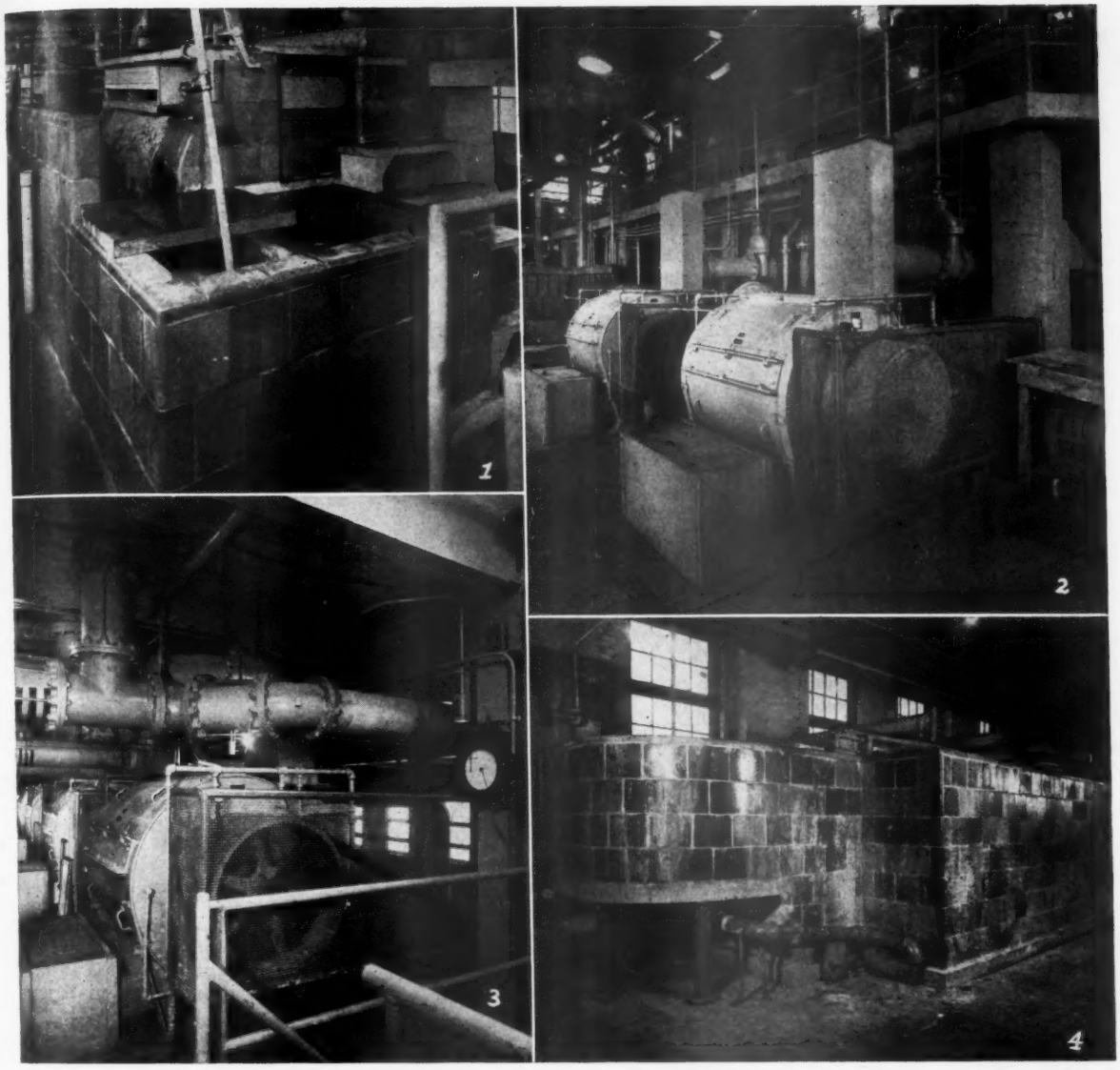
Other Equipment

Other new equipment in the mill includes two 250 and 400-gallon Sveen-Pederson savealls. Ross hoods are to be installed on the machines, and a new ventilating system is to be added. In the converting room is a new Hamblet duplex rotary cutter and new layboy. Paper handling equipment is being added as available, and the Signode strapping method is used in the packaging department and for protection of paper in transit. While the company makes its own groundwood pulp, it purchases chemical pulps from domestic, Canadian and foreign sources.

Up to the time of the initiation of the modernization program the electrical characteristics of the mill were almost entirely 40-cycle. However, the greater part of the new equipment is motivated by a 60-cycle system. The electrical distribution system is being laid out following the modern pattern of using load stations in the mill combining Pyranol transformers with efficient air-circuit breakers. In this way power is fed to the mill at primary

Samuel Pruyn's Testimony on Newsprint

The unfavorable price market drove his company out of newsprint production and into manufacture of other grades of paper a Senate investigating committee was told recently by Samuel Pruyn, vice president of Finch, Pruyn & Co., Inc., Glens Falls, N. Y. The changeover began about 15 years ago and was completed Jan. 1, 1946, he said.



VIEWS OF NEW EQUIPMENT AT FINCH, PRUYN MILL:
1. Jonsson knotter screen gallery showing tiled sluices. Bank of three Jonsson knotter screens is installed on deck just above Impco primary screens. All tile work is by Stebbins.
2. Impco secondary screens with primary screens in upper background.
3. This primary screen gallery consists of five Impco screens.
4. Tiled Sveen-Pedersen Save-all.

voltage and secondary voltage is localized in various parts of the mill to suit requirements. This general method of distribution not only saves considerable copper but it provides for greater flexibility in the use of power.

Finch, Pruyn is one of the oldest and best known mills in upper New York State. It began manufacturing in 1905 and added its third machine as early as 1910. Until January of 1946 its chief products were newsprint and hanging papers. The overexpansion of newsprint facilities in Canada, and the reduced demand for newsprint in the thirties, led the company into groundwood specialties. The experience gained by such endeavors encouraged it to continue and increase the tonnage in such grades. By 1942 the newsprint tonnage only represented slightly over one-third of its total production, and this was steadily reduced until entirely discontinued on January 1, 1946.

It has shown amazing flexibility toward changes that have affected the industry generally. Its latest improvements, embodying the last word in pulp and paper engineering, and mill electrification, show it to be continuing its policy of reasoned change.

Named to K-C Board

R. W. Lyons has been elected to the board of Kimberly-Clark Corp., succeeding F. E. Sensenbrenner, who retired last Jan. 1.

Late H. A. Moses Gave Life to Paper Industry

Horace A. Moses, 85, chairman of the board of the Strathmore Paper Company, West Springfield, Mass., died at his home in Springfield on April 22.

Mr. Moses was born in Ticonderoga, N. Y., and graduated in 1881 from the Troy Conference Academy in Vermont. He entered the paper business at once with the old Agawam Paper Co. A year later he organized the Mittineague Paper Co., which he later consolidated with the Woronoco Paper Co. This combination was renamed Strathmore and in 1911 he became chairman of the board.

The day before he died, on his 85th birthday, the Horace A. Moses Foundation announced a ten-year grant of $100,000 to finance activities of Junior Achievement, of which he was a founder and which is sponsored by NAM. He was also chairman of the board of Rising Paper Co.

The Newsprint Situation--Letters From A Publisher and a Leader in Congress

A U. S. congressional committee to investigate the newsprint industry and newsprint distribution problems is headed by Congressman Clarence J. Brown of Ohio. In a recent issue PULP & PAPER Industry editorially asked "what newsprint industry" it will investigate since any important manufacture of newsprint in the United States today is virtually non-existant.

Some interesting comments on our editorial have been received from a New York state publisher and also from Mr. Brown.

Harold B. Johnson, editor and publisher of the Watertown, N. Y., Daily Times, writes:

"I am particularly interested in your editorial, 'What Newsprint Industry?' You are absolutely right when you say that selfish American publishers are responsible for the fact that we have no newsprint industry left in this country.

"I can recall the time when there were numerous newsprint mills in this immediate vicinity but pressure by the publishers, which resulted in Congress placing newsprint on the free list, spelled the doom of the industry in this country. Now we are paying the penalty.

"With best wishes, I am

Yours very truly,

Harold B. Johnson."

Congressman Brown's letter follows:

"Of course, there is still some newsprint industry in the United States and there is a real opportunity to get a much greater industry established, especially from Southern woods.

"We have no power to investigate Canadian concerns, except if they cooperate willingly. We do hope to get some cooperation on this matter.

"Our Committee has a two-fold purpose. First, as a short range objective—to get a more equitable distribution of available newsprint supplies, and, secondly, as a long range objective, to increase production of newsprint and other papers so that we can get through with dividing up shortages as soon as possible. We are planning to get underway with our hearings within the next couple weeks—meantime we are working hard setting up plans and a schedule.

Sincerely yours,

Clarence J. Brown, M. C.

Chairman, Select Committee on Newsprint and Paper Supply."

Chairman Brown's reference to a "shortage," however, is disputed by R. M. Fowler, president of the Canadian Pulp and Paper Association, who observes that the United States is using 25% more newsprint than before the war. Mr. Fowler appeared before a recent Senate committee hearing on newsprint in Washington, D. C.

ROBERT M. FOWLER—he questions use of word "shortage" re U. S. newsprint situation.

Fowler's Testimony

His testimony, in part, follows:

"This problem of world distribution of newsprint is an immediate problem. In many countries there is a famine and you cannot cure a famine by deciding to plant additional crops the year after next. It is useless to expect that the newsprint famine will be cured by the building of newsprint mills which cannot come into production for two or three years.

"It is futile to suggest that the United Nations Organization next June or next September should talk about the problem. If the world problem has any importance to the United States, and if you wish to do anything about it, you must start by recognizing the fact that you cannot seek additional supplies but must give substantially from the supplies you now have. There is no other place from which the needs of other countries can be met.

"It is difficult to believe that the word 'shortage' can properly or accurately be applied to a country receiving 25% more newsprint than it used before the war. No doubt most publishers would like to have more newsprint to use during the present high levels of circulation and advertising demand. There may be some publishers who, for various reasons, have suffered through some failure to obtain a share of the large total supplies available. But this is a problem of distribution and not a problem of shortage of supply.

"The reason that greater newsprint supplies are not today available to United States users is a matter of simple economics. During the '30s there was not enough newsprint demand to support the existing North American productive capacity and some United States users accused Canada of having surplus capacity and openly advocated the elimination of so-called 'obsolete' and 'uneconomic' mills. The business of making newsprint was not a profitable one. In Canada over half the newsprint capacity went into receivership. This is the reason for the substantial diversion of newsprint capacity in the United States to other products and some diversions in Canada."

I. P. and Gt. Northern Views

W. N. Hurlbut, vice president of International Paper Co., testified:

"The estimate of presently planned increased production on this continent plus the estimate of unused newsprint capacity in the rest of the world totals a most impressive figure, nearly 2,000,000 tons. These prospective additional supplies may very well satisfy the future world demand."

Great Northern Paper Co. is reversing the trend away from newsprint production, the committee was told by Albin R. Caspar, its sales manager.

"From 1942 to 1946," he testified, "our company manufactured a total of 59,614 tons of toweling, corrugating and groundwood specialties at its two newsprint mills; but it has entirely discontinued the manufacture of these grades of paper for newsprint production, and is currently producing newsprint paper at a rate as great or greater than ever before in its history."

Typical of the action taken by a number of other U. S. mills, and their reasons, too, Samuel Pruyn of Finch, Pruyn, vice president, testified that unfavorable prices drove his company out of newsprint and into higher value grades and that this process began 15 years ago.

Sulfite Meeting Is Postponed; Dates Changed for Kraft Group

TAPPI's first Fall Meeting for the Sulfite Industry had been set for Minneapolis this fall, but owing to the short time to stir up interest, it was decided to postpone it until the fall of 1948.

George H. McGregor, M & O Paper Co., International Falls, Minn., will plan the Minneapolis convention.

TAPPI's third special fall meeting for the Kraft Industry is to be held in Asheville, North Carolina, but the dates have been changed to Thurs., Oct. 9 to Sat., Oct. 11. It had previously been set for earlier that same week. The Battery Park hotel will be the site and Dr. W. D. Harrison, assistant general manager at Ecusta Paper Corp., is handling arrangements.

The Superintendents Association has been invited to participate in the Asheville meeting, led by their first vice president, Ray Bennett of Ecusta Paper Corp.

As previously announced, the other TAPPI Fall Meetings planned are for Engineers in Philadelphia in October; for the Strawboard industry in Alton, Ill., in October, and the Fundamental Research meeting in Appleton, Wis., in early September.

Canadians Meet In New Brunswick

The Technical Section of the Canadian Pulp and Paper Association is holding its summer meeting at the Algonquin Hotel, St. Andrews-by-the-Sea, N. B., on June 11, 12 and 13. It was decided to hold the meeting at St. Andrews, not only because of the recent formation of the Chaleur Branch in that district, but also because the meeting will be closer to the Maritime and Newfoundland mills than has been the case in former years.

Group discussions will include: "A Practical Discussion on High Speed Machine Headbox Operation"; "Pitch Control," "Unit Sub-stations," "Infra-red Drying," "Flash Drying of Bark," Drying of Paperboard," "Morden Refiner Operation," "Paperboard Machine Improvements," "Screening," "Re-use of White Water in the Groundwood Mill," "Pit Testing," "Woods Operations," "Uses for Sulfite Pulps," "Installation, Development and Care of Linings for Digesters, Blowpits, etc.", "Casticizing," "Alkaline Pulping Penetration Studies," "Kraft By-Products," "Fibre Suspensions," and other topics.

DR. HARRY LEWIS, who will head TAPPI Fall Meeting on Fundamental Research Sept. 3-5 in Appleton. Other Fall Meetings for Kraft, Sulfite, Engineering and Strawboard groups.

New Canadian Western Group Elects And Hears Timely Discussions

John Ashby, technical director of Westminster Paper Co., New Westminster, B. C., is the new chairman of the Pacific Coast Branch, Technical Section, Canadian Pulp and Paper Association. He was elected to succeed R. C. Bledsoe, Powell River Co., at the annual meeting in Vancouver B. C., April 25.

JOHN ASHBY, Technical Director, Westminster Paper Co., Westminster B. C., who has been elected Chairman of the Pacific Coast Branch, Technical Section, Canadian Pulp & Paper Assn.

H. Ostrowski, Pacific Mills Ltd., was chosen as vice chairman, and Miss M. E. Logan continues as secretary-treasurer.

The executive committee consists of William MacGillivray, Powell River Co.; J. Fraser, B. C. Pulp & Paper Co.; H. MacBean, B.C. Pulp & Paper Co.; C. E. Craig, Sidney Roofing & Paper Co., M. Rhodes, Sorg Pulp Co., and R. J. Stringer, Bloedel, Stewart & Welch.

Papers were presented during the sessions by D. Bamford, groundwood superintendent, Pacific Mills, on "Modernization of a Groundwood Mill"; Dr. R. F. Patterson, research department, Powell River Co., on "Chemical Nature of Wood"; W. R. Dickie, of A.I.M. Engineering & Supply Co., on "Application of Special Steels to the Pulp and Paper Industry"; A. W. Lash, chief construction engineer, B. C. Power Commission, on "Hydro-Electric Development at Campbell River", and Phillip Barchard, B. C. Electric Railway Co., on "Industrial Fuels of British Columbia."

Groundwood Modernization

Groundwood mill modernization is a prime requisite to provide improved tools in order to meet demand for quality, production, conversion of waste and all the increased responsibilities that are entailed in ironing out a major part of the numerous variables, Mr. Bamford told the meeting. He said that one of the major problems in recent years had been to secure stabilized labor to service the grinders. For that reason further mechanization with a definite shift from "muscle power to horsepower" was desirable.

While recommending either the Roberts or the Waterous' Great Northern type of grinders for the west coast, Mr. Bamford said; "The tom-toms even to this day and age continue to reverberate across the continent against certain machines and often with no justificable reason beyond a few idiosyncrasies that may have bedevilled the operators in the early stages of adoption."

Dr. Patterson said that in the utilization of west coast conifers it was unlikely that it would ever be commercially feasible to separate wood extractives as a separate stage in a wood utilization process, but the possibility of obtaining valuable by-products from these materials should not be overlooked.

Mr. Lash's paper on Campbell

River power development was of special interest because of the dependence on that hydro source by the new 165-ton sulfate mill being built at Port Alberni by Bloedel, Stewart & Welch. Mr. Barchard, describing industrial fuels available in British Columbia, said that rapid expansion of the hydro-electric possibilities should be advocated for parallel growth of industries since so many curtailments of alternative fuels stand in the way of competition at present.

Mr. Dickie's paper on the applications of special steels to the pulp and paper industry was illustrated by slides showing recent technical developments. He made particular reference to stainless clad steel, consisting of a layer of corrosion-resisting electric furnace steel, which is diffusion welded to a mild steel backing. Because of the low carbon backing, clad will dissipate heat much more readily than solid stainless steel, said Mr. Dickie. This is quite evident in the process of welding; clad sheets do not draw in or buckle to the same degree as solid stainless.

PASC Elects New Officers

William G. Hartford, superintendent, U. S. Gypsum Co., succeeded John Van Ounsem, technical director, Pioneer-Flintkote Co., as chairman, Paper Makers & Associates of Southern California, at the annual election in Los Angeles, April 17. Other officers:

Vice chairman: Alonzo Hatch, California-Oregon Paper Mills; secretary-treasurer, Conrad Thiel, U. S. Gypsum Co.; executive committee, Robert Stevens, Angelus Paper Mills, T. W. Fletcher, Johns-Manville and Claude Sharpe, West Coast Paper Mills.

Allan Strang, California-Oregon, won the annual George M. Cunningham award of $100 for the best technical paper in the 1946-47 contest sponsored by PASC. Title: "A Closed Water System with a Flotation Type Saveall."

The contest details were handled throughout the year by William A. Kinney, Pioneer-Flintkote, and his committee, Mr. Hartford, Mr. Stevens and Bruce Brown, Jr., the latter being last year's winner and therefore ineligible for two years to reenter. Judges were Dr. Glen Klingaman, Charles G. Frampton and Walter Hoffman.

Retiring Chairman Ounsem received an enthusiastic hand for conducting the organization through one of its most successful years. According to Glen Phillips, membership chairman, 20 new members were taken in during the term. Paid-up members total 82, largest in PASC's history.

AT PACIFIC BRANCH, Tech. Section, Canadian Pulp & Paper Assn., meeting.

Top (left to right): Dean J. W. Finlayson, Applied Science, U. of British Columbia; President Paul E. Cooper, Pacific Mills; Miss Margaret E. Logan, Secretary-Treas., Pacific Branch of Tech. Section; R. H. Bledsoe, Powell River Co., retiring Chairman, and Phillip Barchard, B. C. Electric Co., who discussed fuel resources.

Below (l. to r.): F. Frattinger and J. L. Hay of Pacific Mills; G. D. Humphrey, Assistant Manager, British Columbia Pulp & Paper Co., and H. M. Lewis, Executive Vice President, The Sorg Pulp Co.

Top group: William G. Hartford, U. S. Gypsum Co., receives congratulations from John Van Ounsem, Pioneer-Flintkote Co. retiring Chairman, center, on his election to head Paper Makers & Associates of Southern California, April 17. Extreme left is Conrad Thiel, U. S. Gypsum, new Secretary-Treasurer, and right, two new Directors, Robert Stevens, Angelus Paperbox Co., and Claude Sharpe, West Coast Paper Mills.

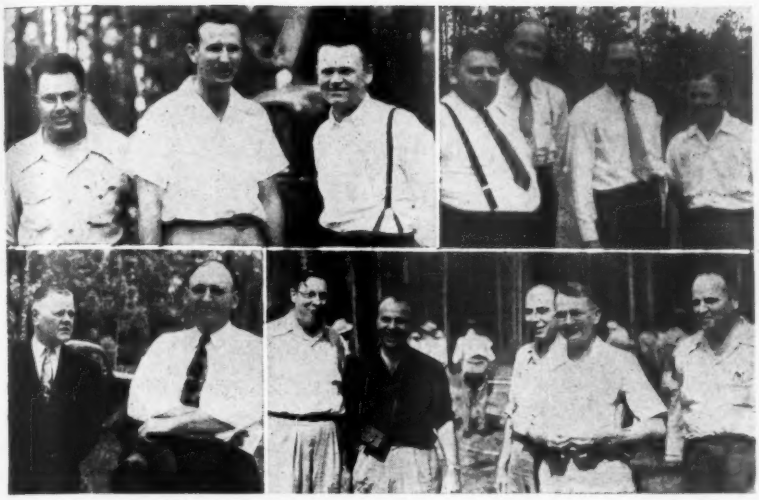
Lower group: Allan Strang, California-Oregon Paper Mills (left), holds the Cunningham Award for 1947, for his entry, "A Closed Water System with Flotation Type Saveall." Center group are award committee and judges. Seated: William A. Kinney (left), Chairman, and Dr. G. W. Klingaman, Head Judge. Standing: Charles A. Frampton, Bruce Brown, Jr., Robert Stevens and W. F. Hoffman. Extreme right: George M. Cunningham, donor of prize.

E. F. Burns of I. P. Dies After Illness

Edwin F. Burns, chief engineer of the International Paper Company's fine papers division, died April 15 at his home in Larchmont, N. Y. He was 49.

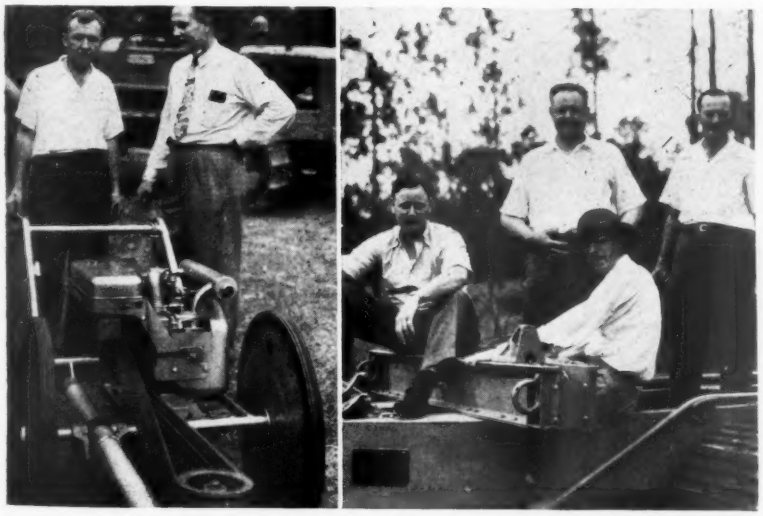
Mr. Burns was born in Rochester, N. Y., and graduated from the Rochester Institute of Technology. He served in the Medical Corps during World War I. He was past district chairman of the Siwanoy Council, Boy Scouts of America, a Mason, a member of the American Legion, and was prominent in TAPPI.

New Woods Equipment Shown At South's Biggest Forestry Meeting



AT EDGEWATER PARK, Miss., demonstrations:
Top row (left to right): H. S. Proudfoot and J. M. McClurd, of Brunswick (Ga.) Pulp and Paper Co.; George Carr, of Pacific Car and Foundry Co. (Seattle); C. L. Huffman and P. G. Rowe, Southern Equipment & Tractor Co., Monroe, La.; James E. Peneton, Memphis branch representative of E. C. Atkins & Co. and Jack Hall, Southern Equipment and Tractor Co.

Lower row (left to right): Mann E. Wagler, of Wagler Equipment Co., Milwaukee, whose tree planter demonstration was prevented by a ship knocking a railroad bridge out of line; W. H. Taylor, president, Taylor Machine Works, Louisville, Miss.; Henry Clepper, Society of American Foresters, Washington, D. C.; Robert N. Hoskins, industrial forester for Seaboard Air Line Railway, Norfolk, Va.; William C. Hammerle, forester, Southern Pine Association, New Orleans; Capt. I. F. Eldredge, New Orleans, consultant forester, and Harvey Langsdale, of Langsdale Timber Company, Valdosta, Ga.



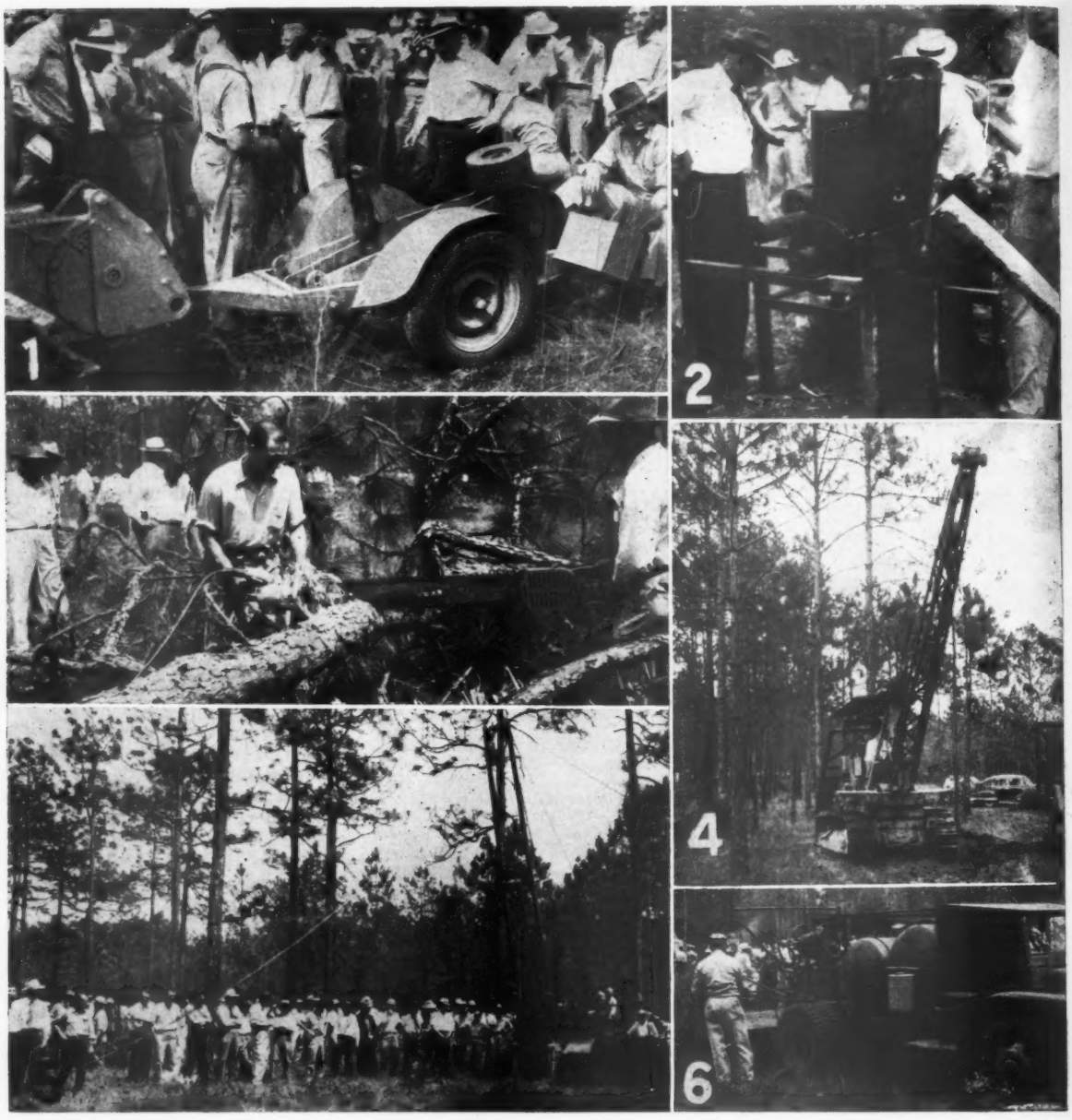
At Edgewater Park, Miss., Foresters meeting: L. A. Whittle (left), Brunswick (Ga.) Pulp & Paper Co., Brunswick, Ga., and James R. Clark, Rite Equipment Co., Mobile, Ala. The equipment is the new pulpwood saw of Tidewater Equipment Co. Brunswick, Ga. Not too heavy for the Athey forged-trak log carrier are (left to right): R. C. "Bob" Symons, technical manager, Blair Equipment, Ltd., Ottawa, Canada; (standing) J. Irwin Davis, Caterpillar Tractor Co.; (seated) John Laird, International Paper Co. forester, Mobile, Ala., and W. H. Whitley, another International Paper Co. forester.

Evidence of the enlarged importance of foresters employed in the Southern Region was given at the Edgewater Park, Miss., meeting, April 30-May 2, of the combined Southeastern and Gulf Sections, Society of American Foresters, at which an attendance of 400 set a high record of any forestry gathering in the South. About two-thirds of those attending were from industry, including pulp and paper companies.

The object of the meeting was to view field demonstrations of forest planting, fire fighting and harvesting equipment. These demonstrations, held on Dantzler Lumber Company lands north of Biloxi, Miss., were the most comprehensive on record. On May 2, the foresters viewed the pine plantations of Gaylord Container Corp. at Bogalusa, La.

The importance of pine seedling planting equipment in the South cannot be over-estimated. With millions of acres on which forest stand is deficient or non-existant hand planting methods are wholly inadequate. The extent of the work to be done may be judged from the fact that total nursery stock produced in 11 Southern states in 1946 amounted to 28,012,200 seedlings whereas the 1947 production is estimated at 120,785,000 seedlings. The 1946 production was low because of seed shortage and labor factors.

Two seedling planters were demonstrated at the meeting, being those manufactured by the Harry A. Lowther Co., and the "Michigan Reforester" produced by the L. W. Merriam Co. A third machine, the Badger Planter, manufactured by Wagler Equipment Co., was delayed because a ship knocked a railroad bridge out of line. The fourth tree planter on record is manufactured by the D. W. Waldron Machine Co., and was described in PULP & PAPER Idustry issue of Sept., 1946. Tree planters can set out 10,000 seedlings per day with ease and not only can effectually cut the cost by one-third or one-half (and perhaps better) but afford the owner the advantage of performing a big task in a short weather-permitting season. The Michigan Forester claims adaption to hillside planting because of adjustable wheels that permit opera-



SOME INTERESTING EQUIPMENT shown at big Southern meeting:
1. The recently developed Harry A. Lowther Co. (Chicago and Jacksonville, Fla.) pine seedling planter.

2. This pulpwood peeler uses chains to flay the bark off. A gasoline motor furnishes power.

3. James E. Peneton (hatless), Memphis, Tenn., representative of E. C. Atkins & Co., demonstrates electric powered saw.

4. Specially designed Link-Belt Speeder Tracto-Crane log loader for Southern operation.

5. The "Logger's Dream," a combination skidding, re-haul and truck loading equipment mounted on a Ford truck chassis demonstrates its capabilities to interested crowd. This unit is produced by Taylor Machine Works, Louisville, Miss.

6. A unit manufactured by Gotcher Engineering Manufacturing Co., Clarksdale, Miss., burns and then extinguishes a fire lane.

tion anyplace that a Caterpillar tractor will not turn over.

A wide array of fire-fighting equipment was exhibited, including tractor drawn fire-line plows. Those plows will soon be put into industry production. This type of equipment included truck and trailer carriers to take tractors and plows quickly to fires.

In the harvesting field, every variety of power saw was efficiently demonstrated. These included the E. C. Atkins & Company electric saw; the Mall Tool Company; the Little Giant Tree Feller, to which line has been added a fence post hole digger; the Kut-Kwick Tool Corp.'s pulpwood saw; new saws of Tidewater Equipment Co. and Harry A. Lowther Co.

In the pulpwood and log loading field, the "Logger's Dream" of Taylor Machine Works, Louisville, Miss., demonstrated use of the re-haul, a facility added to straight truck loading. Other log handling equipment included that of the Link Belt Speeder (mounted on a Caterpillar) and Rite Equipment Co.'s aluminum pulpwood loader and truck.

THIS TRIO FIGURE IN PROMOTIONS at Fibreboard Products Inc., Stockton, Calif., Division, as announced by Vice President N. M. Brisbois and Resident Manager Paul H. Keller (left to right):

RALPH P. McDONALD, new Assistant Resident Mgr. He came to Stockton in 1928 and worked through costs, estimating, planning and order departments and has been Personnel Mgr. since 1946.

NORMAN T. BURKE, new Personnel Manager and Safety Director. At Stockton, Mr. Burke had four years in accounting before going with Army Air Forces (1942-46) to the South Atlantic, then to Texas, India, Burma Road and China. Returned to Stockton as Assistant Personnel Manager in 1946 and organized new safety program for mill.

THOMAS E. YOUNG, new Assistant Chief Engineer. Came to work as utility man in power plant in 1928 working up to present responsibility. He is an amateur flier and photography is another hobby.

Progress on $24,000,000 3-Year Expansion by Fibreboard Products

On many fronts, progress is being made by Fibreboard Products Inc., and its subsidiaries on the $24,000,000 expansion program, announced last year in PULP & PAPER Industry by D. H. Patterson Jr., president of the company. Here is the record to date:

New San Joaquin Division—largest single project in three year plan. Includes erection of new pulp mill, board mill, and conversion plant on south bank of San Joaquin River, about two miles east of Antioch, Calif. Will consist of complete semi-kraft .009 mill and bleached kraft pulp and board mill, as well as complete carton converting department. Construction was to start during second quarter of 1947 and most of the equipment has been contracted for. First unit scheduled for completion and beginning of operations before middle of 1948. Second unit before end of the third quarter of 1948. This mill will be supplied with pulpwood from the Sierra Nevada where the company has acquired many thousands of acres of timber land. When in full operation, San Joaquin division will employ about 500.

Port Angeles, Wash., Division—Additions completed during 1946 included a changeover from hogged fuel to oil burning furnaces. Adequate oil storage capacity and provision for receiving oil direct from tankers was also completed (300 employes).

Sumner, Wash., Division—15,000 sq. ft. of additional converting plant buildings were added together with additional equipment (300 employes).

Portland, Ore., Division—entirely new carton plant, now in process of building, will be finished before the end of 1947. This new plant will comprise approximately 100,000 sq. ft. and will increase the present Portland division's output by 50% (giving employment to 150).

Montgomery St. Division, San Francisco — Some improvements have been carried out during 1946 (employs 150).

Antioch, Calif., Division—Large additions to carton and corrugating departments completed; considerable additional equipment will be installed during 1947. Power plant additions, including new 600 lb. pressure, 150,000 lb. per hr. steam boiler and two additional, 2,000 KVA steam turbines will be completed during 1947. One of the three board machines will be completely rebuilt and enlarged during 1948, including considerable additional beater room equipment (employs 800).

Stockton, Calif., Division—Considerable additional space was provided for the corrugating department during 1946, and additional equipment will be installed during 1947. Folding carton department will be increased with a new addition covering approximately 65,000 sq. ft. This department will also receive a number of new lithographing presses and other carton making equipment. During 1946, an additional 3,500 KVA steam turbine was installed in the power plant. A third boiler will be made available during 1947 (employs 800).

Vernon Division at Los Angeles—More acreage was acquired adjoining this location and the company carried on a program of improvements and additions during 1946. Others were contemplated for 1947 including a complete paperboard coating system (700 employes).

Sunset Division at Los Angeles—Improvements carried out during year at this division which manufactures air dried pressboard (employs 50).

South Gate Division at Los Angeles—Additional equipment on

order, and will be installed in 1948 (200 employes).

Soleduck Logging Division—Early in 1946 Fibreboard purchased the assets of Crescent Logging Co. on the Olympic Peninsula to take care of all the wood supply requirements of Port Angeles' sulfite and groundwood mills (employs 100).

Glass Containers, Inc.— Wholly owned subsidiary with a well established plant at Vernon and another one in the process of construction at Antioch. During 1946 much new equipment was added to the Los Angeles plant. Antioch plant is expected to go into operation within few months; will add about 60% to the glass production of company and is laid out in such manner that capacity can be doubled when advisable. (Vernon plant employs 300, Antioch will employ 200).

Nevada Silicate Sands—At Overton, Nev., subsidiary; supplies sand to Glass Containers Inc. (employs 50).

Independent Paper Stock Co.—Program of improvements carried out by this concern, a subsidiary, which collects, sorts, and bales waste paper in all principal and several intermediate cities on Pacific Coast for board mill's use (employes 450).

Precision Electrotype Co.—Equipment added during 1946 in this duplicate plate making operation, a subsidiary, which among other things produces plates used in printing cartons and shipping containers (employs 45).

Container Transport Co.—New trucks added to fleet of this subsidiary, formed to serve company's various trucking needs in Los Angeles area. Brings fleet to 60 trucks (40 employes).

Headquarters offices, Russ Building, San Francisco (120 employes). Total employes of Fibreboard on Pacific Coast number over 5,000.

New Sulfite Superintendent

Tom Beaune, one of the grand old timers and pioneers of the Pacific Coast pulp and paper industry and honorary life member of the Superintendents Association, has retired as sulfite superintendent at the Port Angeles division of Fiberboard Products, Inc.

Robert Holcomb, assistant chief chemist for the past nine years at the same mill, has succeeded Mr. Beaune, according to Vice President N. M. Brisbois and Resident Manager Verne Basom.

Mr. Beaune, who is 70, plans an automobile tour of the nation including visits to paper mills in New York he helped build while a representative of Stebbins Engineering. Born in Buckingham, Canada, he started working in a Canadian mill at the age of 14. He helped start up the old Crown mill at Floreston, Calif., in 1900 for Stebbins and remained in the west as sulfite superintendent at Oregon City, Camas and Ocean Falls, capped by 25 years' service at Port Angeles.

Bob Holcomb, born in Greenville, Ill., in 1913 and a graduate of the U. of Illinois, came west in 1935 and joined Fibreboard in 1938.

Norwegian Here to Study U. S. Timber Resources

Carl-Fredrik Schulerud, son of the president and manager of a Norwegian bleached sulfite pulp and paper mill, is spending about three years in the United States to study manufacturing methods and also the timber resources of the United States. His headquarters are care of Castle & Overton, 630 Fifth Ave., N.Y.C.

Young Mr. Schulerud, who now holds the title of chief chemist of the A/S Vestfos Cellulosefrabrik at Vestfossen, Norway, said he will enter the business side of the enterprise when he eventually returns. This company will begin exporting pulp to the U. S. again in 1948, he said. He is now making a circuit of the U. S., but will spend a year studying in Washington, D. C., or New York.

His father is Reidar Schulerud. The mill produces normally 24,000 tons bleached sulfite pulp and 8,000 tons of paper annually.

Two Eastern Mills Change Hands

The Fabricon mill at Saugerties, N. Y., has been purchased by Sheffield Paper Mills, Inc., and the Conastoga mill at Girard, Pa., have been purchased by Girard Paper Mills. Both of the acquiring corporations are controlled by Buffum and Co., 333 North Michigan Ave., Chicago.

Said Frank G. Buffum, president of the Chicago company, to PULP & PAPER: "If operations at the Sheffield and Girard plants merit expansion, it is possible that we will install additional waste reclamation mills in various waste centers, using the Sterling pulp process."

At the present time, however, according to Mr. Buffum, no definite decisions on expansion have been made. "We prefer to prove up our present operations, the quality of product, and obtain experienced cost figures before expanding further," he said.

Jim Killen in Japan To Advise Jap Unions

James S. Killen, vice president of the Pulp, Sulfite and Paper Mill Workers, AFL, left Washington, D. C., in April for Japan where he has joined the staff of the Labor Division of the Army of Occupation as a labor advisor to General McArthur.

Mr. Killen, who formerly worked in Pacific Coast pulp mills, will represent the entire American Federation of Labor, and specifically, its free trade union committee. AFL leaders said his duties will be to develop the Japanese labor "movement" along "democratic lines" and to "combat Communism" in Japanese labor organizations.

President John Burke of the Pulp Workers brotherhood, gave Mr. Killen leave of absence for the Japanese assignment.

Buys Equipment For Portsmouth Mill

New England Fibre Co., Portsmouth, N. H., has purchased $25,000 in equipment from the National Gypsum Co. plant in that city, according to Earl Watson, president and general manager. The added equipment will increase production from 120,000 square feet of insulation board monthly to 240,000 square feet.

New England Fibre has been in business a year and a half. The additional equipment includes brine tanks, fibre choppers, pickers and formers, mould oven, dry kiln and mechanical press. At the present time the mill is manufacturing "Fibracoustic" for Johns-Manville, and "Acoustex" for National Gypsum.

West Virginia P. & P. Wins Bowling Title

Keglers of West Virginia Pulp and Paper Co. annexed the championship of the 16-team New York City Paper Industry Bowling League for the second successive year, nosing out the Salesmen's Association of the Paper Industry for the Bulkley-Dunton Cup.

Tom Beaune

Robert Holcomb

Action by Congress Lifts Cloud Over Coast Wage Conference

Almost on the eve of the annual Pacific Coast labor meeting in Portland, Ore., a move in the U. S. Congress to prohibit industry-wide bargaining was beaten by just one vote.

This action lifted a cloud over the uniform labor agreement of the Pacific Coast mills to the relief of both management and the AFL unions. The meetings, beginning in the last week of May in Portland, were thus able to get down to business without any fear of their work being nullified by government action.

The temporary 10% "cost of living" voluntary supplement payment, which went into effect last Jan. 16 in all Coast mills, was expiring as of June 1 and was expected to come up for discussion as a basis of negotiation in the Portland meetings.

The vote mentioned above was taken in the U. S. Senate. Later a House Bill contained a clause prohibiting industry-wide bargaining if it could be proved detrimental to the industry. No one could be sure as this issue went to press, just what clauses the new U. S. labor bill would finally include, but the outlook looked bright for a continuation of Pacific Coast industry-wide bargaining.

The annual Pacific Coast wage conference have become known as the "goldfish bowl" negotiations because any employe from any mill may be present and hear every word that passes. This is believed to be almost unique, or at least unusual, and the more so because some 33 mills are involved. Just having this right, gives any employe a "sense of belonging."

Actually, there are two chairmen, one for the Pacific Coast Association of Pulp & Paper Manufacturers, and one for the unions, and they sit side by side and work in perfect agreement as to procedure and methods of giving the floor to speakers. Only actual members of the negotiating delegates — have the right to speak.

An interesting wage conference is the one held annually by Southern Kraft Division of International Paper Co., where a large group of employes' representatives are invited and far outnumber the customary three representatives of the management. Experience, however, has indicated strong points in this setup. Representatives come from far afield, with eight mills participating. The tendency in other mills of the South is to follow the leads taken in this meeting.

M. J. FOLEY, Vice President, charge of Brooks-Scanlon operations in Foley, Florida, which have now become the "Foley Division" of Brooks-Scanlon Corp., being merged with Oregon state operations. Although no official steps have yet been announced, it has long been anticipated by veteran industry observers in the South that the vast Brooks-Scanlon holdings in that region would some day be turned to pulp as well as lumber production.

New Labor Agreement In Western Canada

New contracts between British Columbia pulp and paper manufacturers and converting plant operators were negotiated recently between executives of the companies, headed by J. A. Young, vice president of Pacific Mills, Ltd., and union representatives.

There were three main contracts. The new agreements affecting B. C. Pulp & Paper Co., Powell River Co., Pacific Mills and Sorg Pulp Co. and their workers provided a wage increase of 12 cents an hour up to $1, with 12% increase over $1. It also included a night shift differential of 3 to 4 cents an hour. The 44 hour week principle was retained.

Another contract affecting converting plants was negotiated between the unions and Pacific Mills, Bartram Paper Products, Canadian Boxes, and National Paper Box., providing for a flat 10 cents per hour increase in wages across the board, with one cent differential for night shift.

Young's Services Appreciated by Companies

J. A. "Jack" Young, vice president and treasurer, Pacific Mills, Ltd., was presented with a wrist watch by British Columbia pulp and paper manufacturers at the conclusion of the 1947 labor negotiations in Vancouver, B. C., recently as a token of appreciation for services as co-chairman of the bargaining group.

PETER HEUEP, Technical Director of Newton Falls Paper Mill in Newton Falls, N. Y. This mill is owned by McGraw-Hill publishing interests in New York City and produces normally 60 tons daily of supercalendered book papers, hanging, embossing and coating papers.

Mr. Heuer is a son of ROBERT H. HEUER, Shift Superintendent at Longview, Wash., sulfite pulp mill of Weyerhaeuser Timber Co., and first chairman and one of the founders of the Pacific Coast Superintendents' Division.

Peter Heuer's picture was taken here while visiting Williams Press in Albany, N. Y., to study effects of printing and printing press heaters on paper turned out at Newton Falls, and his assistance was greatly appreciated by the publishing house.

Contest for Control of St. Lawrence Settled

Contest for control of St. Lawrence Corporation, Ltd., in Montreal, which had aroused wide interest in the industry because of the issues involved and the divergent claims of the opposing groups, was settled through a form of compromise a few days prior to the annual meeting.

A. K. Cameron, president, after saying that the previously conflicting interests had composed differences, predicted a good year.

In addition to Mr. Cameron, the new directors are: Arthur H. Campbell, Aubrey Davis, Allen D. Emil, Robert E. Fennell, K. C., H. Carson Flood, Percy M. Fox, John Rankin, N. A. Timmins, Jr., and David Van Alstyne, Jr., chairman.

It is proposed to amend by-laws to provide four additional directors—John E. L. Duquet, Edward L. Elliott, George B. Foster, K. C., and Hugh Mackay.

H & W's New Cafeteria-Recreation Building Contributes to Good Management-Labor Relations

A solid contribution toward good employe relationship has been accomplished at the Chickasaw Mill (Mobile, Ala.) of the Hollingsworth & Whitney Co. through establishment of a first class cafeteria, with recreation space, on the plant grounds. Prior to initiation of this service in late 1946, mill employes either brought their lunches or left the grounds to obtain food.

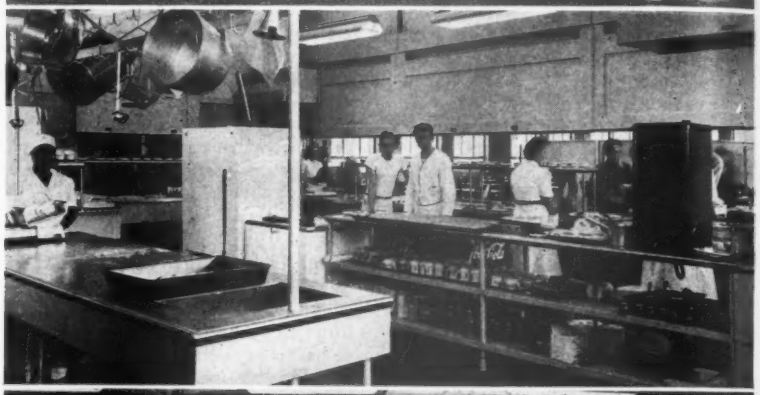
The company's objective in providing the facility was to provide a balanced meal at minimum cost, and to provide them with recreation space at off hours. Operated on a non-profit basis, the cafeteria management is in the hands of specialists in cafe planning and management. This meal service is provided by an independent outside restaurant management under company surveillance. No charge for the building, equipment, heat, lights, etc., enters into the food costs.

The cafeteria is operated on a 'round the clock basis, with hot meals served to each shift. Under the system, no worker need stand in line more than 10 minutes (the average is less than five minutes) to be served a meal. The specialty is a 50c meal with choice from three meats or fish; two out of four vegetables; bread, coffee, and dessert. Equivalent of coffee (5c) may be selected. The lunch is equal to what would ordinarily cost 75c in a downtown equivalent restaurant.

About 250 persons are fed on day shift, with two half-hour luncheon periods between noon and 1:00 p. m. A la carte service is available at other times from 7 a. m. to 7 p. m. and from 11 p. m. to 1:30 a. m.

Not only is hot coffee, with standard "snack" items, available outside of the regular meal hours but a mammoth 10-gallon thermos urn mounted in a miniature motor car takes these items through the mill to those who do not wish to make the trip to the cafeteria. These trips by the food cart are confined to daylight hours. Prices for sandwiches run 5c and 10c under prevailing town restaurant menus.

Popularity of the cafeteria and recreation space is attested to by a customer count (cash register hits) ranging from 300 to 400 per day. Shift hours are staggered in various departments and many men going on or off shifts find it convenient to have a snack either going in or coming off. Four ping pong tables and checker tables provide a pleasurable manner of expending a margin of time in changeovers.



UPPER VIEW: New Hollingsworth & Whitney cafeteria and recreation building at Mobile, Alabama, mill presents attractive appearance in pleasant setting. Note elevated roof center for admission of light.
MIDDLE VIEW: The business kitchen end of the cafeteria leaves nothing to be desired, either in being spic-and-span or appeal of luncheons served in appetizing manner.
COVER VIEW: The 120-person capacity dining section is airy, well lighted.

Recreation space is set aside at one end of the building, with the separation screens movable to permit expansion to provide for large assembly, dancing, group meetings, motion picture showings, and orientation courses. The 1946 Christmas party was held there. The truss roof affords a floor space clear of supports.

Employes may purchase $2.00 meal tickets(no discount) on payroll deduction basis. Pay at the mill is weekly.

The cafeteria-recreation building is a one-story brick structure measuring 50 feet 2 inches in width by 92 feet 8 inches in length. The kitchen occupies a 24 by 34-foot space beneath which the basement houses the manager's office, stores, a Hobart potato peeler and other primary food preparation activities, and a Herrick 6x6x6 walk-in refrigerator with GE compressor and Freon condensor unit.

Kitchen equipment also includes a Garland heavy-duty range, Hobart mixing machine and slicing machine, Champion dish washing machine, two commercial electric refrigerators, an eight-gallon coffee urn,

electric griddle and toaster. All kitchen equipment is hooded to prevent cooking odors from entering the dining space. An ample ice-cream cabinet has a side-use to quickly chill foods prior to their being placed in walk-in storage.

The building has tile-lined walls and asphalt tiled floor. It seats 120 in the dining room without crowding. Ventilation is with exhaust fans.

Dennis E. Cousins is manager and Ed Wood, assistant manager of the Chickasaw mill. Turnover is at a low, between one per cent and two per cent. Absenteeism is not a problem.

During the war years, Mobile had a labor congestion problem rising from operation there of two ship construction yards, an airplane conversion center of magnitude, as well as other essential industrial plants and accessorial services. Man power was short; living conditions hard.

Since then the Mobile area employment has fallen from the 100,000 wage earner peak by about 35,000, part of which decline included multiple workers within a single family. In early March, 1947, there were about 12,000 on unemployment relief. The Hollingsworth & Whitney mill met its war manpower shortages by adding about 75 persons to the payroll in 1946 and is adequately staffed now.

Two other paper mills are in Mobile; also American Cyanamid plant.

New Bagasse Mill Planned in Louisiana

Promotion of a $7,000,000 wallboard mill to utilize sugar cane bagasse is being effected at New Iberia, La., by the Inter-Continental Engineering Co. of Chicago.

A meeting in which plans were revealed to sugar cane growers was held in New Iberia April 6. W. O. Dorrah, president of the company, presented the plans. The proposed plant would utilize 70,000 tons of bagasse annually and have an employment of from 500 to 600 persons.

New Cafeteria in South

Florida Pulp & Paper Co., Cantonment, Fla., has opened a new, attractively modern cafeteria. Regular luncheon is served from 11 a.m. through 2:30 p.m., and a la carte service throughout the 24 hours of the day. The food is good and reasonably priced.

Nice Work If You Can Get It

J. H. Coil, Jr., office and personnel manager for Hollingsworth and Whitney Company, Mobile, Ala., served as chairman of the Azalea Trail Committee this year. One of his duties was to receive the attractive screen star Anita Ellis, who flew from Hollywood to be Queen for the occasion.

Long Service Records For Union Bag Employes

Starting with 141 employes with 25 years or more service, the Quarter Century Club of Union Bag & Paper Corp. was formed recently at banquets in New York City and Glens Falls, N. Y. Members were presented with engraved gold watches.

President Alexander Calder, who joined the company as a salesman in 1913, and 22 others were honored at the Waldorf Astoria, May 1. Oldest New York employe is Crawford Palmer, consultant to sales manufacturing control, who joined Union Bag 48 years ago in Hudson Falls.

At Queensbury Hotel, Glens Falls, May 3, 108 Hudson Falls employes were honored, led by Paul Brunette, Sr., with 54 years, Harry Cornell, 49 years; Henry Gaulin, 48; Leon Murray, 46; Henry La Point, 46; William Gaulin and Charles Doyle, 45; Effie DeGarmo, 44, and Vice President True M. Avery, 39 years.

Suttle, Veteran of Southern Industry, Dies

Bruce Suttle, a veteran former superintendent and pulpmaker for 37 years in mills at Canton, N. C.; Bogalusa, La.; West Point, Va.; Bastrop, La.; Crossett, Ark.; Hodge, La., and St. Mary's, Ga., and recently director of Herty Laboratory in Savannah, Ga., died March 4.

Mr. Suttle worked under the late Dr. Charles H. Herty during the early 30's when the laboratory was playing a prominent role in Southern industry developments. Its importance has dropped off slightly in recent years due to the highly competitive nature of modern research carried on individually by Southern mills but it has continued to carry on interesting experiments for various companies on bamboo, bagasse, cotton stalks, hardwoods, etc., with the limited equipment it has.

Mr. Suttle went back to the laboratory as director in 1942. Walter L. Hendrix, who served as engineer at the laboratory under Mr. Suttle, has taken over as director.

St. Regis Board Adds Two Members

William H. Versfelt and Edward G. Murray were recently elected vice presidents of St. Regis Paper Co., and Ashley D. Pace and Gurdon W. Wattles were elected directors, increasing the board to 19 members. Mr. Versfelt is treasurer of St. Regis Paper Co., and Mr. Pace is a vice president and director of Florida Pulp & Paper Co. and Alabama Pulp & Paper Co.

Sales of $32,938,299 for St. Regis and subsidiaries for the first quarter this year almost doubled last year's records. Net income after taxes amounted to $3,698,826, as compared with $1,004,656 for the corresponding 1946 period. The company reported a record total of $5,563,604 for all of 1946.

Pace Boat In Race

The racing sloop White Heather, owned by A. D. Pace, vice president and treasurer of Florida Pulp & Paper Company, Pensacola, Fla., finished 10th of 25 boats participating in the St. Petersburg (Fla.)-Havana (Cuba) annual sailing classic in March. Tom Pace, the owner's son, served as skipper.

Gaylord Container Seeks Oil in South

Gaylord Container Corp. is carrying on a study, through its minerals department, as to the possibilities of discovering the presence of oil and gas on its properties in Louisiana and Mississippi. It has its big mill at Bogalusa, La.

The procedure involves a scientific analysis of results attending the activities of oil companies and others in the area in which the company holdings lie, and also the company's activities carried on through exploratory geophysics and other means.

In this latter connection, the company has surveyed by gravity meter approximately 220,000 acres of its holdings and has isolated several gravity meter prospects. It is the process of surveying 40,000 acres by seismic methods and analyzing the data obtained.

In addition, the following can be reported: (a) A contract with a major oil company whereby the latter is exploring by seismic methods 15,000 acres in Mississippi; (b) A joint exploration with another major oil company of an area in Louisiana; (c) Negotiations with two major oil companies and a group of independent operators covering still other lands in Louisiana.

No producing well has been drilled as yet on company lands.

Water for Gair Mill At Savannah, Ga.

Completion of the Savannah (Ga.) $5,000,000 industrial water supply project can be effected by Nov. 15 if delivery dates for electrical equipment can be stepped up, according to Thomas M. Johnson, Chairman of the Industrial & Domestic Water Supply Commission.

Mr. Johnson stated the project's completion had been set for January 1, 1948. One of the users of water from this project will be the Southern Paperboard Corporation, whose mill is now in process of construction at Port Wentworth, a Savannah suburb.

Fernandina's Senator

A. G. (Sandy) McArthur, woods department manager for Rayonier Incorporated, Fernandina, Fla., who has been serving in the Florida state senate has drawn a top-flight job for the current session through appointment as chairman of the finance and taxation committee.

Scott Safety Award

A. J. Schroder, personnel director for Scott Paper Co., was guest speaker at the dinner for foremen, supervisors and safety committees of the Brunswick Pulp & Paper Comapny, Brunswick, Ga., at which the Scott Trophy for the best safety record was presented. E. J. Gayner III, vice-president and general manager, was first speaker and lauded the staff for its second-time trophy win.

To Plant 5,000 Acres

Planting of approximately 5,000 acres per year to pine seedlings will be undertaken to supply the Florida Pulp & Paper Co., and Alabama Pulp & Paper Co., according to President James H. Allen. The planting will be extended over a 20 year period.

FINGERS IN NEW YORK SET TYPE IN LOS ANGELES FOR NEW COAST EDITION OF TIME MAGAZINE

The new coated paper facilities at Crown's West Linn mill will be the fundamental basis for *TIME* magazine's whole Pacific Coast edition plans, Bert Chapman, *TIME* production operations manager, told PULP & PAPER in New York last month. And it was revealed that Time's Pacific Coast edition may transfer from offset printing to letterpress when the Crown mill gets going in July. At the present time, offset is used.

Another key to the Pacific Coast edition lies in the use of acetate sheets in the reproduction of both editorial illustrations and black-and-white advertising pages. These acetate sheets are the equivalent of film positives and are mailed from the New York editorial headquarters to Chicago, Philadelphia, and now also to Los Angeles where *TIME* has a modern printing plant.

Copy is set by teletype setters which are fingered in New York and set type in Los Angeles. The Pacific Coast edition is for the three west coast States and some of the interior western states such as Nevada and Arizona. Alaska copies are flown from Chicago via Seattle and are not now included in the coast edition.

Color advertisements and covers will still be printed in the eastern *TIME* plants and shipped as inserts, as these are planned well in advance.

Life is being printed on the west coast now by letterpress and considerable improvement has been made in relation to printing and paper, officials say, and they expect further improvements particularly in two-color work. Both Time and Life are printed at Pacific Press, Los Angeles, which is undergoing improvements and additions and is owned partly by Time-Life, Inc.

JOSEPH H. THIERY appointed Regional Sales Manager by Blake, Moffitt & Towne to coordinate and supervise sales of the Oakland, Sacramento, Fresno, San Jose, and Stockton divisions in California with office at San Francisco headquarters. He replaces Roy M. Tucker, who resigned to be Sales Manager of a Stockton frozen food concern.

Time Inc. Net Profit Higher for 1946

Net income in 1946 of Time Inc., publishers of Time, Life, Fortune and the Architectural Forum magazines, and producers of the movie March of Time, amounted to $4,007,024 after all deductions, including taxes. This is an increase of $966,257 over the net income of $3,040,767 reported in 1945. This equals $4.11 a share compared to $3.18 a share for 1945.

The company's annual report showed gross income of $95,955,168 compared with $74,157,211 in 1945. However production, distribution, selling, editorial and general expenses were $90,820,764, an increase of $25,756,266 over the previous year.

Roy Larsen, President, and Maurice T. Moore, Chairman of the Board, pointed out that "Time Inc. publications carried more advertising, in dollar volume, than any other magazine publishing company has ever carried."

In December Time's paper properties were sold to St. Regis Paper Co. Thereafter, Bryant Paper Co. and Time Inc., Bryant Laboratories, Inc., the Michigan subsidiaries, were dissolved and their remaining assets transferred to the company. The stock representing the Company's interest in the remaining assets of Hennepin Paper Company was sold.

During 1946 the company substantially completed construction and equipping of research laboratories at Kalamazoo, Mich., (on paper and ink) and Springdale, Conn., (mechanical). These laboratories, fully equipped, will cost about $1,600,000.

"It is believed that work in our laboratories and in laboratories of others will improve products and lower costs in the next several years," said President Roy Larsen of Time, Inc.

Forester Opens Office In Texas

Nathan D. Canterbury, for the past four years forester for the Houston (Texas) Division of Champion Paper and Fibre Co. and former Louisiana state forester and assistant state forester in South Carolina, has opened an office as consulting forester in Houston, Texas, where he resides.

Mr. Canterbury did field work for the Kootenai National Forest, Anaconda Copper Company, Crossett Lumber Co., Massachusetts Forestry Assn., International Paper Co. (Southern Kraft Division), and was on the Yale faculty.

G. J. TICOULAT (lst), General Sales Manager, Crown Willamette Paper Co., division of Crown Zellerbach Corp., presents 40-year service pin to ROBERT WEBB, Resident Manager, Harlingen, Texas, Division, at dinner in Harlingen. Mr. Ticoulat, accompanied by Mrs. Ticoulat, made trip from San Francisco to Texas for the specific purpose of presenting pin to Mr. Webb. Also present were Walter Goodman, of Sales Office, Dallas, Texas; Mrs. Goodman; Lyle Tidland, Assistant Manager at Harlingen; Mrs. Tidland, and Walter J. Lineham of San Francisco office.

Truman Congratulates International Paper Co.

President Truman congratulated International Paper Co. and its president, John H. Hinman, for reducing its prices of kraft liner board and containers.

Mr. Hinman made public a telegram received from Dr. John R. Steelman, assistant to the President, in which Dr. Steelman said the action would tend to lower the cost of distributing food, clothing and drugs. The company had announced a $5-a-ton cut in prices of kraft liner board and a $10-a-ton reduction in the price of kraft corrugated containers.

Dr. Steelman's message, characterizing the cuts as "a solid victory for business common sense," said:

"The President joins me in congratulating you and your company on this move."

Tour Foremen Named

Positions of pulp mill tour foremen were created at the Gulf States Paper Corp., Tuscaloosa, Ala., with Russell S. Killian, E. J. Babin, John W. Gamble, and Ben O. Narramore named to fill the posts. The foremen will act as personal representatives of the pulp mill superintendent during respective tours of duty and be responsible for production from when wood enters the mill to when pulp goes to the beaters.

G. S. Clerk Dies

George Somers Clerk, treasurer of the Hudson Valley Paper Co. of Albany, New York, died from a heart attack April 23 at the age of 58.

Mr. Clerk had been associated with the company over 40 years and served the Empire State Paper Merchants Association as its president.

COBEAN REPORTS ON EUROPE—

(Picture of Mr. Cobean is on Page 30).

George G. Cobean, president of Bulkley, Dunton Paper Company, S. A., the paper export unit of the Bulkley, Dunton organization, recently returned from a trip by steamship and air transport which took him to Sweden, Finland, Russia, France, and England, in the interests of the company.

In Sweden he found that industry resentment against the government had considerably lessened since the decision to allow Swedish pulp and paper to compete in a free market. But there is still considerable anxious criticism on the part of business, and the concensus appears to be that industry is in for higher taxes and possibly further control. It is interesting to note, Mr. Cobean points out, that the equalization fund operates on pulp only. Paper manufacturers are not included in this assessment which amounts to from 20 to 50 kronor per ton on pulp.

In Finland, Mr. Cobean lunched with several head officials of the Finnish Cellulose Association and two local bankers, as the guest of a prominent Helsinki published who is a former Minister of Foreign Affairs. The New Yorker reports that Finland appears to be well satisfied with its status in relation to Russia. Both industry and the general public seem to feel that the Russian treatment has been very fair. One-third of Finnish reparations to Russia has already been paid, and Finland is working hard to complete the payment. It looks forward with confidence to the future, Mr. Cobean says. Significant is the fact that the Karelia district, entirely taken over by the USSR, contains not only the best Finnish agricultural lands but also some of the most modern units of the pulp and paper industry. This is in line with a general picture, gradually being realized, that Russia now dominates the cellulose world, except for North and South America.

Mr. Cobean has little to say about his sojourn in Russia, except that he enjoyed his visit there and received every courtesy. One thing he did say to PULP & PAPER in an exclusive interview: Russia's domestic demand for lumber is tremendous and she will have little or none for export, due to her rehabilitation program.

It was in England that Mr. Cobean learned a fact about Russian pulpwood which will surprise many in the U. S. This is that before the war Norway was receiving 50% of her pulpwood from Russia, and Sweden about 30%. The statement is on the authority of one of London's leading pulp and paper experts, Mr. Cobean says. And almost all Germany's pulpwood must come from Russia. Most German pulp mills in the Russian zone in Germany, he learned, have been stripped of pulp machinery which will be set up within Russia.

In France he found the temper of the people surprisingly spirited. France is operating its "IMEX Plan" whereby raw materials are brought in to be made into finished products which must be exported. Thus Russian pulp is being brought in from Finland and is made into newsprint which is exported, due to France's desperate need for exchange. Meanwhile France imports newsprint under difficulties and French newspapers are very small.

Mr. Cobean found England much worse off, generally, than during his last previous visit a year and a half ago. But the British courage is still visible, he says, and the majority believe all problems will be solved.

Distorted Reports on Newsprint Criticized by Industry Officials

Newsprint prices, despite recent price increases, are not "out of line," and producers of newsprint are doing their level best to allocate their output as equitably as possible.

That is the conviction of Canadian newsprint executives who in the past few days have been called upon to answer criticism directed against them chiefly by newspaper publishers and their representatives.

President Harold S. Foley of Powell River Co., pointed out at the recent annual meeting of his company in Vancouver, it should be borne in mind that the $90 per ton price is gross, from which must be deducted freight to designation, averaging $12.50 on the entire production. "In our opinion," said Mr. Foley, "this price is reasonable and we hope that conditions will permit stability at this level . . . Production costs continue to rise, particularly raw material and labor costs. We view this upward trend with a great deal of cencern, and every effort is being made to economize wherever possible."

In his analysis of the newsprint price situation B. R. Cancell, vice president of Powell River Co., pointed out that foreign newsprint is being sold at prices in excess of $150 a ton.

"World production of newsprint continues far short of world demand, a situation which promises to prevail for an indefinite period," said Mr. Cancell. "Some European newsprint is finding its way into U. S. west coast markets, but the quantity is not substantial. The price is very high.

"There is a good deal of uninformed talk to the effect that the price of newsprint today is too high. This is definitely not true, for three reasons: 1. Costs are increasing steadily. 2. The price of newsprint is not out of line historically. 3. Compared to comparative grades of paper, the price of newsprint has not advanced proportionately."

Mr. Cancell presented charts showing that the cost of logs had increased by the end of 1946 250% in British Columbia since 1936; labor, per ton of production, had risen 50% in ten years, most of the increase being in the past year or so. Fuel oil costs had advanced 50% since 1937, the rise being accelerated in the last year. Main material costs had climbed 50% in a decade; mill burden was up 150% since 1936, and freight rates up 150% since 1937. Total costs per ton of newsprint produced had soared 75% during the past ten years, and prospects were that there would be further advances in costs of logs and maintenance.

Compared with newsprint, B publication paper (for magazines, etc.) was selling at $110 a ton; unbleached liner at $110; unbleached sulfite at $105, with $115 being charged for the second quarter.

Salmonson Represents Draper Brothers

Walter A. Salmonson, 519 White Bldg., has been appointed Pacific Coast representative of Draper Brothers, Canton, Mass., manufacturers of papermakers felts, according to announcement by Ralph E. Briggs, sales manager.

Killian Joins St. Regis Kalamazoo Mill

Melvin J. Killian, former superintendent and control supervisor at Combined Locks Paper Co., has been named technical director at the Bryant division of St. Regis Paper Co., Kalamazoo, Mich., according to Peter J. Massey, general manager.

Dave Oberweiser's Pooch

"George Sniff," the boxer owned by David E. Oberweiser, vice president and treasurer of Fox River Paper Corp., Appleton, Wis., can bask in reflected glory these days. He's a kennel relative of a national champion boxer, War Lord of Mazelaine.

Safety Essay Contest

Paper Hill Superintendent Ray Almand at Union Bag & Paper Corp., Savannah, Ga., recently decided an essay contest among his safety captains might help to focus attention and interest in safety. The response was excellent.

The winner was given a sweater for first prize, second prize was a pair of safety shoes and the winner's essay stressed the duty of a safety captain to watch for all danger spots, even when they do not affect his own department.

Canadian Influence Tends to Keep Down Market Price for Pulp

Although Swedish pulp exporters are getting higher prices, Canadian producers are not tempted to seek similar price levels, nor are they considering the advisability of reducing newsprint production so as to make more pulp independently available for the market.

Theoretically, Canadian pulp manufacturers might be able to get a considerably higher price, but many of the more important factors in the industry operate on an integrated basis and even though diversion to high priced pulp might have its temporary reward, it would be at the expense of idle newsprint machines. Newsprint, of course, is at a premium everywhere and current contracts will keep all mills operating as close to capacity as possible.

Figuring the new prices on the basis of ex-dock, Atlantic seaboard, Swedish pulp will now cost U. S. importers $119 a ton for unbleached sulfite, $145 for bleached sulfite, $114 for unbleached kraft pulp, $150 for bleached kraft pulp and $75 for groundwood pulp. This brings the prices of Swedish pulp above those of delivered U. S. and Canadian pulp, quoted last March, as follows: Unbleached sulfite, $115; bleached sulfite, $125; unbleached kraft, $110 and bleached kraft, $135.

On the basis of these prices, the wood pulp segment of the Canadian pulp and paper industry is contributing more to company earnings than at any time in the past. They are realizing at least $105 at the mill for each of the 1,600,000 tons of pulp they are selling. Even on the basis of $90 newsprint, the companies will only be realizing some $80 or even less at the mill on their newsprint sales, now averaging 4,400,000 tons on an annual basis. Expressed another way, mills can realize as much from the sale of 20 tons of wood pulp as for 25 tons of newsprint.

At present prices of unbleached sulfite and groundwood, nonintegrated mills have been priced out of the newsprint market in Canada. It wouldn't be profitable for a newsprint mill to buy this pulp in the open market for conversion into paper because the end product couldn't be sold for a price that would cover pulp cost and processing.

The only way in which the industry can capitalize on the present high prices for wood pulp is to create a surplus for sale after meeting newsprint requirements, and that isn't easy.

Here is a list of some major Canadian companies with an indication of their saleable woodpulp capacity (not necessarily their production):

ANNUAL CAPACITY
(In Thousand of Tons)

Company	*Types*	
Abitibi	Bleached, unbl. sulfite	100
Consolidated	Unbl. sulfite & kraft	75
Lake St. John	Unbl. sulfite	30
Dryden	Unbl. sulfate	35
Donnacona	Unbl. sulfite	40
B. C. Pulp	Bleached sulfite	125
Brompton	Unbl. sulfite	60
Price Bros.	Unbl. sulfite	30
Pacific Mills	Bleached sulfite	25
Canadian I. P.	Bleached and unbl. sulfite	235
Brown Corp.	Bleached and unbl. sulfite	200
St. John Sulfite	Bleached sulfite	40
Fraser	Bleached sulfite	60
Howard Smith	Bl. sulfite, soda, groundwood	70
Marathon	Bleached sulfate	90
Powell River	Unbl. sulfite	50
Bathurst	Unbl. sulfite	25
Great Lakes	Unbl. sulfite	50

A new Paving Breaker, the PB-8, has been announced by Ingersoll-Rand. (Write at 11 Broadway, New York 4, for bulletin). This new 82-lb. machine is suitable for heavy-duty demolition and general paving breaking. The new kicker-port valve used in the PB-8 greatly increases efficiency and striking power. Oil economy is assured by metering device that furnishes proper lubrication for all working parts. Generous size of oil reservoir is in the handle.

Connecticut Promoted For Hardwood Pulp Mill

Dr. Robert S. Aries, Director of the Northeastern Wood Utilization Council at a recent meeting said a new hardwood pulp mill in the state is "entirely within the realm of possibilities."

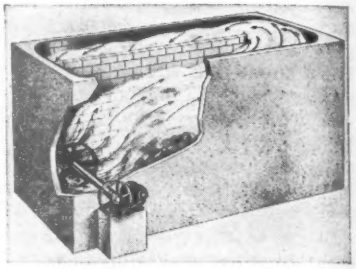
More than 60% of the area is forested and more than a million cords of hardwood can be produced each year, he said. The bulk is suitable for pulp manufacture, Dr. Aries declared.

Connwood, Inc., was founded two years ago by a group of timberland owners interested in developing methods for removing thinnings and unsaleable wood for pulp industries. Edgar L. Heermance is secretary of Connwood, Inc., and the field director is Michael M. Pochan, Jr., a forester.

Japanese Tissue Reaches U. S. Market

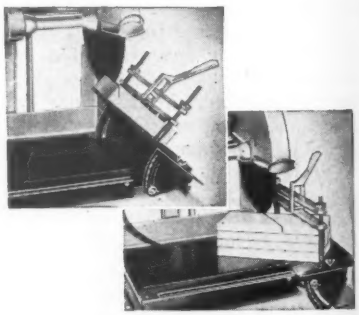
Five shipments of Japanese Yoshino tissue paper, averaging about 100 reams each, have been received at New York through U. S. Commercial Corp., a marketing subsidiary of the Reconstruction Finance Corporation according to Warren B. Bullock, manager of the Import Committee of the American Paper Industry, 122 East 42nd, New York.

The U. S. organization has as Japanese agent the Board of Trade of the Imperial Japanese Government, "Boe Ki Cho", which is cooperating in shipments of Japanese goods to facilitate payment of U. S. Army Occupation costs. The paper was offered to the highest bidder.



AN AXIAL FLOW AGITATOR that can be installed in stock chests from side or end to fit conditions is announced by D. J. Murray Manuf'g. Co., Wausau, Wis. Here is cutaway view of horizontal stock chest, but it may be in various shapes. Chest is divided into two compartments, and in partition is axial flow impeller that pumps stock from one side and discharges into other. Flow created by agitator keeps particles in suspension while turbulence within the flow impeller mixes stock. Settling out of solids is prevented. A number of combinations may be designed.

Clipper Co. Offers New Masonry Saw Clamp



The Clipper Manufacturing Co., makers of Clipper masonry saws, announce the new "Instant Clamp" adjustable conveyor cart. This handy accessory makes it possible to cut the most intricate shapes and sizes from regular brick tile and firebrick with surprising ease and is designed to handle any thickness of masonry material up to 5", or width of 12".

For complete descriptive literature, write to the company, 2800 Warwick, Kansas City 8, Missouri, for Bulletin No. 75.

Closed Water System With Flotation Type Saveall

(1947 Prize-Winning Paper of Paper Makers & Associates of Southern California)

By Allan Strang

The Sveen Pederson Flotation Saveall is described as a means of operating a paper machine closed system resulting in savings of well water and paper making fiber in addition to producing a lower sewer waste. Efficiencies are given on various grades of paper. Wetting agents as flocculation aids are briefly discussed.

With waste disposal and water supply becoming a very serious problem in the Los Angeles area paper mills are finding it necessary to be vitally concerned.

It is fortunate in the paper industry that these two problems are essentially one and can be treated as such, the chief waste being an acqueous solution of papermaking material. Thus a separation of the two results in not only less waste but a supply of much needed process water.

A flotation type of saveall such as the Sveen Pederson enables a paper machine to operate under a closed water system. Theoretically the only makeup water necessary being that which is evaporated in the dryers. Actual operation can be very close to the theoretical.

The operating principal of the Sveen Pederson saveall is to flocculate the paper machine pit water stock by chemical means and then by attaching air bubbles to the flocs raise them to the surface thus bringing about a distinct separation.

Description

For the benefit of those not familiar with the Sveen Pederson saveall a brief description will be given:

A Sveen Pederson saveall is a rectangular open top basin, a 500 GPM unit measures 12 feet wide, 29 feet long, and 7 feet high. It is usually constructed of reinforced concrete or building tile.

The paper machine pit water is pumped into one end of the saveall with air being injected at the pump suction. A 1% solution of Sveen glue containing a small amount of rosin size and alum are added to accomplish flocculation. Air bubbles are formed from releasing the dissolved air to atmospheric pressure the air bubbles attaching themselves to the flocs raising them to the surface where the stock is skimmed off mechanically for reuse. The clear water is drawn off from the bottom for use on the machine showers and for beater room process water.

A pH of 5.0 to 6.8 is maintained on the white water depending upon flocculation tendencies. Generally a higher pH can be maintained on an unbleached fiber furnish.

Operating Efficiency

A tabulation of operating results of the saveall under discussion is given in Table I.

Table I

Furnish	Lbs. per 1000 gals., B.D. Basis Influent	Effluent	% Efficiency
Unbl. Sulfite (Waxing)	3.1	0.20	94
Bl. sulfite (Waxing)	3.2	0.22	93
Bl. sulfite (Waterleaf)	3.4	0.17	95
Kraft-sulfite (Wrap)	3.0	0.16	95
Alpha (Waterleaf) West. Fiber	3.5	0.30	91
Alpha (Waterleaf) East. Fiber	3.3	0.18	95

ALLAN STRANG, of California - Oregon Paper Mills, author of this paper presented at April meeting of PASC in Los Angeles, and winner of $100 Cunningham award.

On paper grades containing fillers Harrison (1) reports operating results averaging approximately 0.18 pounds per 1000 gallons. On some grades such as opaque waxing results as low as 0.06 pounds per 1000 gallons have been reported.

Material Requirements

The Sveen glue is made up as a 1% solution and allowed to age 24 hours before using. Formulas may vary somewhat but a common one frequently used is shown in Table II.

Table II

	Lbs. or %
Sveen Glue	87
Rosin Size	5
Potassium Chrom Alum	7
Dowcide A	1
	100

Approximately 1 to 1.5 pounds of material are required per ton of paper. Total cost of chemicals should not exceed 0.2¢ per ton of paper or about ¾¢ per 1000 gallons of water treated.

Flocculation

The operating efficiency of the flotation type of saveall is dependent upon the degree of flocculation imparted to the machine white water.

The use of pure fatty acid and natural fat soaps as an aid in flotation of white water has been investigated by Poor and Whitenight (2) who found flotation efficiencies increase when the acid, carbon chain is from 6 to 14 inclusive, above this a decrease is noted.

The use of wetting agents has been suggested as a flocculating aid. Erspamer (3) reports that negatively charged wettings agents such as sulfonated castor oil promoted flocculation but agents carrying a positive charge functions just the opposite by promoting fiber dispersion. Poor (4) working with wetting agents in the concentration of 0.005 to 1% by weight of water found that negatively charged wetting agents aided in forming larger flocs permitting entrainment of larger proportions of air thus promoting flotation efficiency. Sulfonated alcohol, however, according to Woolwage (5) gave no aid in fiber flocculation.

Experiments made on the Sveen Pederson saveall indicate that additions of a sulfonated ester ad flotation to the extent of clearing the effluent from 0.25 lbs. stock to 1000 gallons to a value 0.10-0.15. A similar application using a cationic type of wetting agent produced no appreciable operating changes.

When the saveall effluent water is used for process water this reduction in stock carries no special significance unless very fine shower nozzles are used, however, should the saveall effluent be discharged to the sewer the savings would be important for two reasons, stock savings and the necessity of discharging a clear sewer effluent to comply with anti-stream pollution regulations.

Flocculation of paper mill white waters is still a comparatively unexplored field but with the vast possibilities offered by the flotation type of saveall considerable research should be forthcoming.

Summary and Conclusions

(1) A flotation type of saveall such as the Sveen Pederson can reduce paper machine pit water to 0.12-0.20 pounds per 1000 gallons.

(2) A low effluent value of 0.20 pounds stock per 1000 gallons enables a machine to operate under a closed system, the advantages of which are:

(a) Less fresh water needed.

(b) A savings in raw materials.

(c) A clear effluent to the sewer.

(3) Operating costs and maintenance are low.

(4) Efficiencies of 94% are common.

(5) Wetting agents of the anionic type aid slightly in fiber flocculation when used in small amounts.

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Free Books for N. Y. Kids

● Arrangements have been completed for the distribution of free classics to New York grammar and high school children. The initial press run, with more to come, is 180,000 of such titles as "Treasure Island," "Huckleberry Finn," "Robinson Crusoe" and others. The books are theirs to keep. Other city and state school systems are examining the project with interest, and it may well create a new national market for the pulp and paper industry postwar.

Westminster Paper Co. Annual Dividends

Annual dividends of Westminster Paper Co., New Westminster, will total $76,462, compared with $47,789, as a result of the directors' decision to recommend an increase in the rate from 5 to 8%.

This recommendation wil be ratified at a meeting of shareholders in April, effective with the payment of the quarterly dividend of 20 cents a share April 30.

Program at Fort Frances Ontario-Minnesota Mill

The Fort Frances, Ont., Ontario-Minnesota Pulp and Paper Co., Ltd., subsidiary of Minnesota & Ontario Paper Co., will spend more than $1,500,000 on an expansion and improvement program, including modernization of No. 6 paper machine.

This machine, initially installed in 1914, will change from production of newsprint to manufacture of high grade groundwood printing papers. Modernization of the machine includes a new slice, improvements to the Fourdrinier, and installation of a suction couch. It is also proposed to modernize the press section and install a smoothing press, which will permit the installation of six additional paper dryers. The machine is presently equipped with only 28 dryers. A new Pope type reel and Cameron Machine Co. winder will also be installed.

Another feature of this modernization will be the substitution of a new modern electric drive for steam drive on this machine.

To replace the former weighted rolls a suction press roll was added to No. 7 paper machine. This press was installed to increase the dryness of the flowing paper web by 2%, raising the percentage dryness from 28% to 30% before the sheet enters the steam dryers.

Other projects supplementing this program involve the continuation of the rebuilding of No. 5 paper machine for its conversion to groundwood paper manufacturing. The sulfite decker chest wil be provided with tile lining and agitation thereby assuring a cleaner supply of sulfite pulp for the manufacture of printing papers.

As previously announced, new coating machines are being installed across the river from the Fort Frances mill, at the M & O International Falls, Minn., mill.

Stream Installation

Construction is expected to start immediately on Rainy River pollution elimination facilities to recover and dispose of bark fibers and other refuse resulting from wood room operations some of which formerly escaped screens and entered the river. Installation of the improved screens will recover all wood room refuse which will then be pressed to remove excess water and conveyed to a specially designed boiler furnace to be burned. This is the result of the continuing studies by company engineers in a long range program for the maximum elimination of mill wastes in the interest of the local communities and those located downstream from the manufacturing operations.

In addition, a Sveen-Pederson Save-All unit will be installed to further reclaim fiber.

Boiler Replacement

Presently the Fort Frances steam plant is equipped with two boilers which produce 42,000 lbs. of steam per hour, two other boilers of 26,000 lbs. and one of 40,000 lbs. per hour capacity. The two smaller boilers will be replaced with a single unit producing 85,000 lbs. per hour. This new unit, automatically controlled, is to be stoker fired, with water walls, superheaters, and forced and induced draft equipment.

An additional Fire Making Process barker will be installed in the wood room supplementing five existing drums. With six drums available the possibilities of shutdown due to mechanical trouble will be reduced.

Extension to Groundwood Mill

Extensions of the present grinder room were accomplished to accommodate one additional three-pocket grinder which was added to the line of five grinders, utilizing the surplus power capacity of a 3,500-h.p. motor already driving the five. To further supplement the grinding capacity of No. 3 groundwood mill, construction is presently under way to house 8 additional three pocket grinders. They are to be set up in two lines of four each, which increases to 14 the number of stones available to produce the quality and quantity of higher grade pulp desired.

His Honor—

MAYOR WILLIAM BECKETT OF HAMILTON, O.

Mr. Beckett is the hard-working mayor of that sizable city of Miami Valley, a city which is well known in the paper industry. He is also serving on the Board of Directors of the Association of Pulp Consumers, just having been elected to a 3-year term. This and his duties in The Beckett Paper Co., in which he is associated with others of his family as Treasurer, makes him a busy man these days. He works hard at the Mayor's job and is proving a popular one.

Crandall Is Manager At O & M Kenora Mill

E. E. Crandall has assumed his new duties as plant manager of Ontario-Minnesota Pulp & Paper Co., at Kenora, Ont.

Ontario-Minnesota Executive Dies

Ralph Bateman, vice president of Ontario-Minnesota Pulp and Paper Co., Ltd., Kenora, Ont., died May 3, at Kenora General Hospital.

Born at Goole, Yorkshire, England, May 21, 1880, Mr. Bateman emigrated to the Dominion in 1908 and obtained his experience in eastern Canadian sawmills and lumber camps. In 1936, he was named resident manager and was later promoted to vice presidency of Ontario-Minnesota, subsidiary of Minnesota & Ontario Paper Co.

Collins Is Promoted

Richard Collins has been appointed vice president in charge of manufacturing for Consolidated Paper Corp., according to announcement by President L. J. Belnap. His headquarters will be at Grande Mere, Que.

English-born, Mr. Collins received his early training with Bentley & Jackson, british papermaking engineers, and came to Canada in 1911.

PMMC Holds Spring Meeting

The Paper Mill Men's Club of Southern California held a golf tournament and elected four new members at its Spring 1947 meeting, April 15 at Inglewood Country Club, near Los Angeles.

John Kirby of Kirby Sales Co. was named general chairman on next fall's Hi-Jinks committee.

The golf tournament, a blind bogey event, managed by "Cal" Calhoon of Marathon Corp., ended in a victory for Merle Paup of Comfort Paper Co.

Charles Brouse, Pacific Waxed Paper Co.; Cornelius Warren of Paper Container Co.; R. J. Martel of Paper Manufacturing Co. of Philadelphia; and R. A. McDonald of Paper Products, Inc., were elected to membership.

Roy Gute of Marathon Corp. presided.

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SOUTHERN HARDWOODS FOR PULP AND PAPER

By Charles R. Lockard[1]

Southern Forest Experiment Station, New Orleans (19), La.

The pulp and paper industry must reckon with southern hardwoods if it is to realize the full potentialities of the forest resources upon which it is based. Taking this as axiomatic, the Forest Service, through the Forest Products Laboratory at Madison, Wis., and the Southern Forest Experiment Station at New Orleans, recently made a South-wide inquiry to determine not only the present use of southern hardwoods for pulp and paper but especially the possibilities of expanding consumption.

Hardwoods comprise 55% of all the sound wood on the 165 million forest acres in the South. Pine makes up the other 45%. All data on the South in this article, unless otherwise stated, refers to South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and eastern parts of Virginia, North Carolina, Texas, and Oklahoma.

Pine is so intensively sought after, not only by pulp mills but by sawmills, pole and tie operators, container and veneer plants, and a variety of other users, that the present unbalance between growth of pine and the drain against it will continue until sound forestry, widely practiced, increases pine growth. Meanwhile, hardwoods, which temporarily at least are not fully utilized, can be a welcome addition to the pulp supply.

The Ubiquitous Hardwood Problem

In the South, hardwoods dominate the 116 billion cu. ft. of growing stock. In addition, 23 billion cu. ft. of sound hardwood has accumulated in cull trees scattered throughout the forest areas. Reproduction is prolific and vigorous. The hardwoods are truly ubiquitous. Nor are they likely ever to be eliminated or even substantially reduced. Pulp and paper companies, which already own considerably over 5 million acres of timberland, thus face a continuing growth of hardwood. On pine sites this may plague management, but on hardwood sites it is an opportunity to grow as much wood per acre as can be grown on pine land.

There is one other consolation for pulp and paper men, and a very important one. It is that a very large portion of this hardwood growth finds practically no industrial use at the present time. The hardwood is there almost for the taking. Its removal will profit the pulp and paper industry indirectly by improving the growing stock and directly by extending the quantity, range, and quality of the industry's output.

Just how important a raw material hardwoods can be to the pulp and paper industry can be shown by a more detailed analysis of the timber supply. First, let us examine the growing stock portion of the forest inventory. This is the volume of timber in relatively sound, usable trees of good species. Of the total volume of 116 billion cu. ft., 55% or 64 billion is hardwood. Of this large volume, 31 billion is in good trees from 5 to 13 inches d.b.h., 21 billion in the portion of stems of trees over 13 inches in diameter suitable for sawlogs, and 12 billion in the tops of these saw-timber trees.

Table 1, based on the latest available information, shows annual growth on this growing stock and the relation to the growth of the wood cut and used, destroyed or left in the woods.

Table 1. Annual Growth and Drain on Southern Hardwoods

	Saw-timber-sized (14 in. d.b.h.)		Pulpwood sized
	Sawlog portion	Tops	(5"-13" d.b.h.)
	In billion cu. ft.		
Growth	1.0	0.4	1.1
Drain	1.4	.7	.3
Balance.....	— .4	[1]	+ .8
Equivalent rough standard cords		11 million	12 million

[1]No balance is drawn because amount of this material is controlled by saw-timber drain and cannot be related to growth. The figure represents cubic volume cut incidental to saw-timber operation and not utilized. It is immediately available for suitable products.

Thus there is available to the pulpwood industry in trees generally considered of optimum pulpwood size (5-13" d.b.h.) a quantity of hardwood over 30 times the present hardwood consumption and half again as large as the present total of pulpwood consumption. Add to this volume 11 million cords in topwood of larger trees, and the annual hardwood growth available for pulpwood assumes staggering proportions. Another very important and favorable feature of this hardwood growth is its wide distribution. Figure 1 shows that practically every Survey Unit in the region has significant quantities of pulpwood-sized hardwood growing stock.

In addition to growing stock, southern forests now carry an accumulated volume of 300 million cords in cull trees. These are hardwoods of all sizes and species which are so poor in form, so knotty, or with so much cull that they are considered useless. Although the rotten culls are gradually deteriorating, the sound ones are growing an estimated 6 million standard rough cords annually. Practically none of these cull trees now make anything except fuel, but some of them, particularly the small sound trees, could well be used for pulpwood.

This large volume of hardwood creates problems for land managers desiring to grow pulpwood. These problems involve managing hardwood stands of saw-timber size so as to maintain volume and quality growth and to eliminate low-grade species and trees. They include thinning and improvement cutting in stands under sawlog size where hardwoods predominate. They encompass the salvage of less desirable species and qualities of hardwoods growing on pine areas, and their replacement with pine. They include the handling of hardwoods in mixture with pine, either coordinately or as an overstory. In this phase, hardwood management grades over into the pine management. The problems definitely include the removal of the vast accumulation of culls left everywhere from generations of "creaming" operations. Certainly almost every forest holding will continue to have some hardwood on it. Thus, if the pulp and paper industry did no more than use large quantities of those sizes of hardwood particularly suitable for pulpwood, it would not only have an additional current supply of raw material, but would greatly strengthen its program to secure maximum yields from company forest lands.

Present Use

Just how much hardwood does the South now pulp? Figure 2 shows the location of the 42 mills considered in the inquiry and the type of pulp each turns out. In

[1]Original surveys and analyses conducted by Mark W. Bray, Lloyd Lang and H. Rich of the U. S. Forest Products Laboratory, and Walton R. Smith of the Forest Utilization Service.

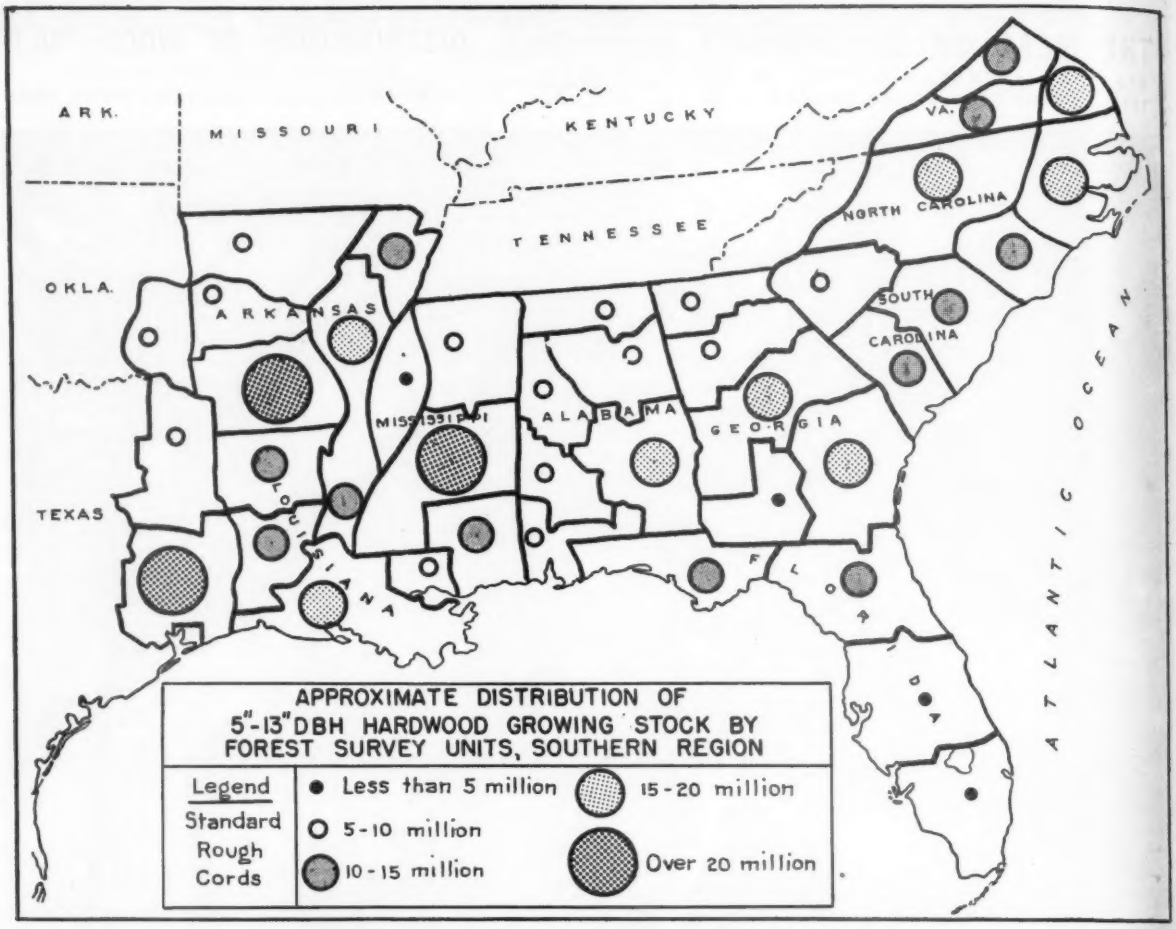

FIG. 1—Southern hardwoods are ubiquitous, prolific, and productive.

1944 these mills pulped slightly over 7 million standard cords of wood. *Of this, only 373 thousand cords, or less than 5%, was hardwood.*

The relation of this use to the unused growth is clearly shown in Figure 3. It is noteworthy that although the annual consumption of all species for pulpwood increased from 2 million to over 7 million standard rough cords in the decade from 1934 to 1944, hardwood consumption increased only from 250 to 373 thousand standard rough cords in the same period. Almost the entire increase came from the use of hardwood as an extender in pine products during the war, rather than from types of paper manufacture based on hardwood alone.

Why Not Use Hardwood?

Because hardwoods are so important in southern forests and apparently so adaptable to pulp and paper products, southerners ask why the industry does not use more hardwood. The answer is basically that a major portion of the present industry is geared to the manufacture of products for which pine is most suitable. However, other reasons are frequently given by wood procurement men and mill superintendents.

Woods Problems—The wood procurement man's chief objection is that hardwoods cost more to produce than pine. They are heavier, some are more difficult to fell, somewhat less of their cubic volume is in straight, easily-swamped stem. Large hardwoods are more difficult to split by hand in the woods than are the pines. Although much hardwood grows in mixture with pine, the best chances occur where logging difficulties are greater than in surrounding mixed or pure pine stands.

There are few published data to show how real many of these objections are. Limited study by the Southern Forest Experiment Station at its branch at Crossett, Ark., indicates that the number of man-hours required to fell, buck, skid, and load 100 cubic feet of logs from hardwood trees 12 inches in diameter is no greater than for pine timber of the same size. Furthermore, although hardwood pulpwood may cost more per standard rough cord, it actually may cost less per ton of produced pulp, since hardwood averages about 1/6 more wood substance per cubic foot than southern pine.

More research by both government and industry, and more operating experience, may eliminate most of this adverse operational difference between pine and hardwood, particularly in pulpwood size trees. Research is needed on directional felling, loading and skidding in long or tree lengths, bucking at landings, proper use of improved power saws and skidding equipment, bulk handling, mechanical loading, special pulpwood trucks, and the effect of adequate supervision. The Southern Pulpwood Conservation Association has already made a fine contribution toward operating efficiency by stimulating research and distributing information on new equipment.

Much of the hardwood stand is subject to periodic flooding. Stock

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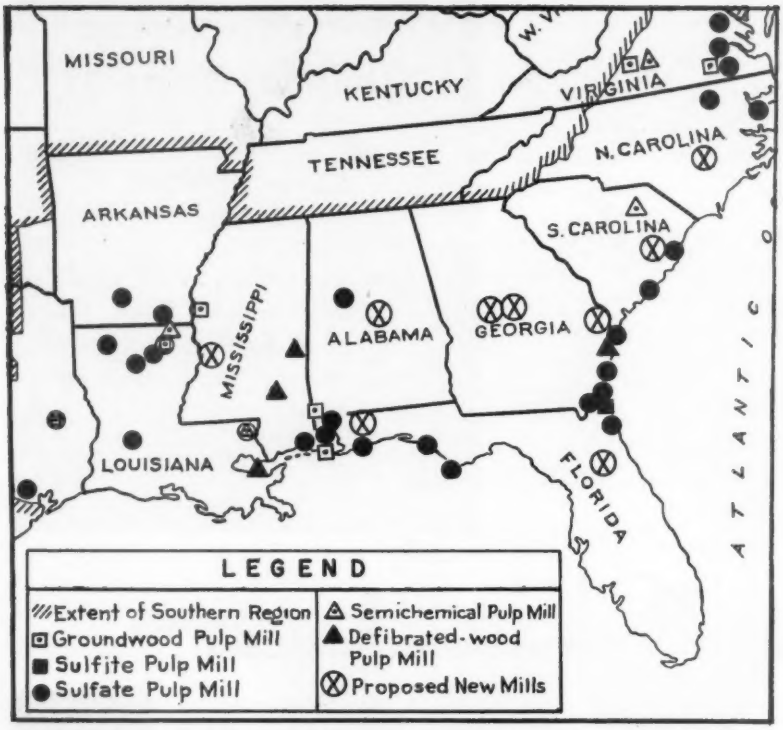

FIG. 2—Location of 42 Southern Pulp Mills and their grade of products, July 1946. (Ed. note—The new hardwood mill in South Carolina (at Georgetown) listed "proposed" was put into operation last December.)

piling at mills and landings is unsatisfactory because insects and decay work too rapidly; hence continuous operations are difficult. The answer is proper organization. Hardwood sawmills, for example, stockpile to a safe limit and then save for wet weather areas unlikely to flood.

Integrated utilization undoubtedly would lower the costs of producing hardwoods for pulp. Many areas are better suited to growing hardwoods than pine. Here a good forestry program could be very likely get high enough returns from products like veneer logs and sawlogs so that the pulpwood would be practically a by-product, and hence would carry no stumpage charge. Furthermore, modernized woods operations designed for the larger products probably would cheapen pulpwood extraction costs.

Difficulties at the mills.—Since each hardwood species pulps somewhat differently, and since a large quantity of a single species (except possibly cottonwood or tupelo) can seldom be yarded at a given time, segregation of species becomes important. A partial solution is to group species. "Easy" pulping species, such as the gums, bays, and hackberry, can be grouped for many uses. "Harder" ones like oak, hickory, pecan, and ash are likewise thrown together. A similar problem is maintaining pine-hardwood ratios in mixtures. Some pine pulp mills which require more than one species of wood have already successfully solved the problem of segregation.

Debarking costs are often high, for hardwoods (particularly the oaks) are more difficult to debark than pine. Steaming prior to barking greatly facilitates bark removal—some hardwood mills in other regions do this today. Barking is now receiving a great deal of attention and improvements in hydraulic barkers or new mechanical types may be expected to lower hardwood debarking costs. There is a special problem in debarking small, twisted sticks, but well-controlled woods operations can eliminate a high percentage of these before they reach the mill, without significantly affecting forest yield.

Hardwood bark can, of course, be cooked with the wood. The bark requires more chemical for reduction than wood and also increases the difficulty of bleaching, but cost of the chemical is not proportionately increased, for a large portion is recovered. If mechanical debarking is too costly, additional chemical may quite possibly be the cheapest way out in the manufacture of sulfate and soda pulps.

In pulping oak in particular, some soda and sulfate mills experience some corrosion of equipment, which is probably caused by sodium tannate. Other mills pulping oak, however, do not find this difficulty, especially when corrosion-resistant metals are used in places where the most serious corrosion is likely to occur. In other regions, some mills using a high percentage of oak circulate liquids in the system in such a way that no corrosion results. Vigorous research will undoubtedly either discover a buffering agent or develop resistant metals.

Machine speed is an important factor in the manufacture of many products made from the long-fibered softwoods of the South. Unless the paper machine can be adjusted to compensate for the slower drainage rate of hardwood pulps, their inclusion may reduce the drainage rate, and therefore machine speed, beyond economic operation.

In pulping mixtures, particularly of pine and hardwood, certain physical differences among the various hardwoods considerably affect the rate of reducing in the digester. It is possible, however, to adjust schedules and proportion of chemicals so as to obtain uniform cooks.

Difference in density can be taken care of by proper changes in the wood-chemical relationships. For example, since blackjack oak is about 1/3 denser than pine, at least 1/3 more chemical is required for that proportion of oak charged to the digester. Dense wood is apt to pack better than lighter chips, hence additional allowance must also be made for the greater amount of wood substance in the digester. However, the actual cost of chemical per ton of mixed pulp will be no greater than for single species, for a proportionally larger yield of pulp per cord of wood and per digester charge can be expected.

Rate of reduction also may differ. Gums, for instance, reduce much more easily than pine. Others, such as overcup oak, are inherently more difficult to pulp than pine. In order to equalize the reduction rates in mixtures, an additional adjustment of chemicals beyond those required by differences in density and packing must be made, or the cooking schedule must be altered.

The Forest Products Laboratory has found that if the required adjustments are made, mixtures can be cooked uniformly. Where raw or hard pulps are being produced with low chemical ratios, it is best to

mix in a more easily pulped species like gum rather than a refractory one such as oak.

There are other ways of compensating, at least in part, for the differences among the hardwoods. One method, which certainly could be provided for in new installations, is to cook the several components of a mixture separately and then blend them. Such a procedure, by keeping the percentage of the several species constant, would result in a uniform product.

Rewards for Increased Use of Hardwoods

Although the southern pulpmills probably will continue using pine predominantly, they must, as has been stated before, deal with hardwoods on their land and upon the lands of their wood suppliers. This is not an unfavorable situation for there are good possibilities in aggressive hardwood management. Land managers, before deciding to reduce hardwoods as much as possible, should carefully consider growing them on adaptable sites. Few of us appreciate how fast hardwoods grow. Table 2 makes an illuminating comparison of the yield table values of sweetgum and loblolly pine, each on its average site.

Table 2. Growth Per Acre of Sweetgum and Loblolly Pine

Species	At 60 Yrs.	At 80 Yrs.
	Cubic feet	
Loblolly Pine.....	6,700	7,400
Sweetgum	6,350	7,470

Note that redgum is slightly ahead of pine at 80 years. These yields were obtained in unmanaged stands. Good forestry can get volumes greater than these, but both species probably would benefit to about the same degree, and thus would still be tied. In comparing pine and hardwood management, it should be remembered that on sites where pine will yield a slightly greater volume, most of the difference would probably be offset by the fact that hardwoods, on the average, contain about 15% more wood substance per cubic foot than pine.

That good hardwood management is also important on pine sites is shown by a study the Southern Forest Experiment Station made in central Louisiana. Hardwoods were competing with pine in a mixed stand which had grown up after an earlier sawlog cutting. To improve the stand, some of these hardwoods, not normally marketed, were removed along with some of the pine.

In the next 10 years, pine in the treated stand grew faster than in the untreated stand, even though the cutting had taken nearly half the growing stock. Figure 4 diagrams the operation and also the subsequent development of the stand. Of special significance is the hardwood development. The treatment removed the slowest growing elements and, as a result, on a very much reduced stock (from 7 to 1.5 cords), hardwood growth over the next 10 years was three times as large as that on the untreated stand, which had a growing stock of 8 cords.

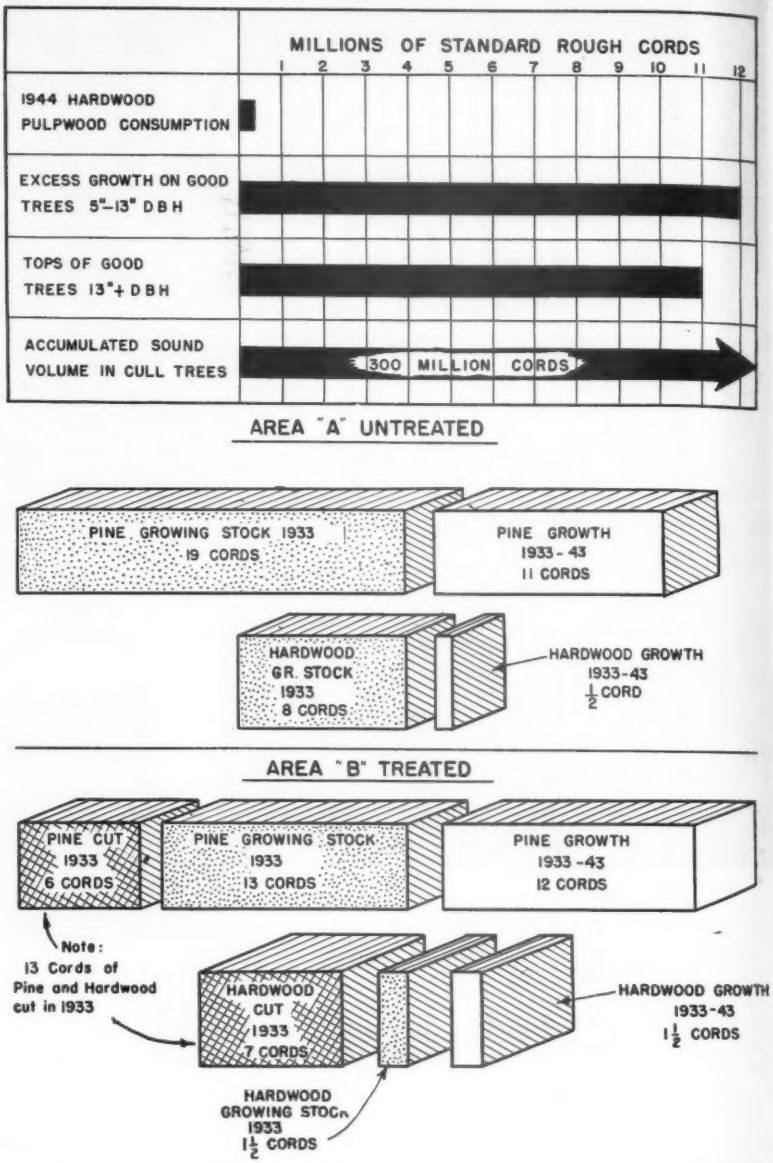

FIG. 3 (Above)—In 1944 use of southern hardwoods for pulpwood amounted to only 3 per cent of growth on good small hardwood trees alone. Although this means a favorable balance of growth over drain, it means also that there are opportunities for increased utilization.

FIG. 4 (Lower diagrams) — "Area A" and "Area B" diagrams illustrate how important the ability to remove hardwoods is to good forestry practices. Figures are per acre.

Another interesting result of this study, not shown by this chart, is that the volume growth is decidedly increasing in the treated stand. The removal of the hardwoods has been important to this development. Had only the pine been cut, the stand would have been converted almost completely to inferior hardwoods. Land managers are continually faced with conditions such as these, and their success in achieving maximum volume growth may well depend upon a market for hardwood trees.

Uses for Hardwoods

Because the pulp and paper

industry uses chiefly pine, there is a tendency to overlook the fact that hardwood pulps have many fine properties, some of them unique. The short fibers of hardwood contributes fine surface, excellent formation, good porosity, and highest printability to book and fine papers. They add softness and absorbency to tissues and toweling. When manufactured by the semi-chemical processes, they give pulps satisfactory for corrugating and liner boards. Thus, discussion of an expanded use of hardwood should not be confined only to the industry as now established, but must consider new units handling hardwood exclusively, though early increase will probably come through the present industry.

About 40% of the small amount of hardwood now pulped in the South is consumed by mills producing kraft paper and paper board. Some mills find that they can introduce as much as 10% of hardwood fiber into their products. Other mills use practically none. The variation in use stems from difficulties which can be attributed to lack of regulated ratios of pine to hardwoods in the mixture and a promiscuous mixing of hardwood species, as well as to product specifications. Much of the present consumption of hardwood by this portion of the industry is temporarily expedient during pine shortages. If technological disadvantages are overcome, perhaps 20 % of hardwood could be used in high-strength products without impairing quality or speed of manufacture. Using this much hardwood in present kraft production would increase the total hardwood pulpwood consumption to over a million standard cords annually.

In the book and fine paper field, any possible increased cost is offset by the high value of the product. Although this class and the related one of tissue and absorbent paper are not large at present, an ever-increasing demand for such products points to some future expansion. The war has so disturbed production ratios of different papers that present figures may not indicate the true demand for these papers. Intraregional trends indicate opportunities for the South. Although the Pacific Northwest has very little hardwood, some expansion in the manufacture of book and fine papers can be expected there. The East, however, has for some time lacked sufficient pulpwood for existing mills and has depended partly on outside sources for both pulpwood and pulp. This situation has lasted so long that while there may be some shifting in grades, any expansion is likely to be minor in comparison with possibilities in the South. The paper-making industry of the Midwest, as a whole, has reached a balance between forest growth and wood consumption, and expansion there will be limited. Thus, its large volume and variety of hardwoods give the South an opportunity to increase production of book and fine papers.

Southern hardwoods are especially adapted to high-yield pulping methods, such as the neutral sulfite semi-chemical and the sulfate semi-chemical processes. These processes can be controlled to yield 75% or more of moisture-free pulp from almost any hardwood. The pulps and papers are of good strength and suitable for a wide variety of uses.

Useful in Newsprint

One important use is in newsprint. The Forest Products Laboratory in experiments made excellent newsprint containing as high as 40% of hardwood semi-chemical pulp. Judging from experiments with northern hardwoods, it is likely that by using the semi-chemical and groundwood pulp from light-colored southern species, the hardwood content of newsprint can probably be raised to 80% .

Semi-chemical pulps have many other uses. Their low cost, unbleached, adapts them for catalog, telephone news, hangings, and other similar printing papers.

One of their most important uses is made possible through the recent developments in bleaching. The Forest Products Laboratory found that if care is taken to retain a large part of the hemi-cellulose during bleaching, exceptionally strong pulps which hydrate rapidly are produced. In fact, they are stronger than kraft pulps from the same species. These properties are particularly significant in grease-proof and food wrapping papers and in blends of other white-grade papers.

Other outlets for high-yield, coarse-fibered hardwood pulps produced by grinding, semichemical pulping, and by other fiberizing methods are building board, hardboard, roofing, and insulation grades. Although cottonwood and other light-colored species are best for light-colored, uncoated boards, a number of other species, such as willow, the gums, and even oak, are suitable for the dark-colored and coated products, as well as for roofing grades. In fact, hardwoods make pulps that absorb asphalt especially well. High-quality pulpwood and bark removal are not essential for these darker-colored boards and roofing. So-called low-grade southern hardwoods, therefore, are an important source of war material for all these products.

The pulp and paper industry represents a large expanding outlet for the products of the southern forests. It is also a large producer of its own raw material. It has a tremendous stake, therefore, in the management of both its own lands and the lands of the general public and is in the very unique and favorable position of being able to contribute a market which will make possible an adequate forestry program on all southern forest lands. Particularly important is its ability, partly realized and partly potential, to absorb additional quantities of southern hardwoods. It will reach its full possibilities by integrating timber-growing and manufacturing activities. Achieving this desirable situation will require skillful management and a continued and vigorous program of research into technological and economic obstacles barring the way.

Reprints of the preceding article can be obtained from Charles A. Connaughton, Director, Southern Forest Experiment Station, Box 7295, Mid City Station, New Orleans, 19, La.

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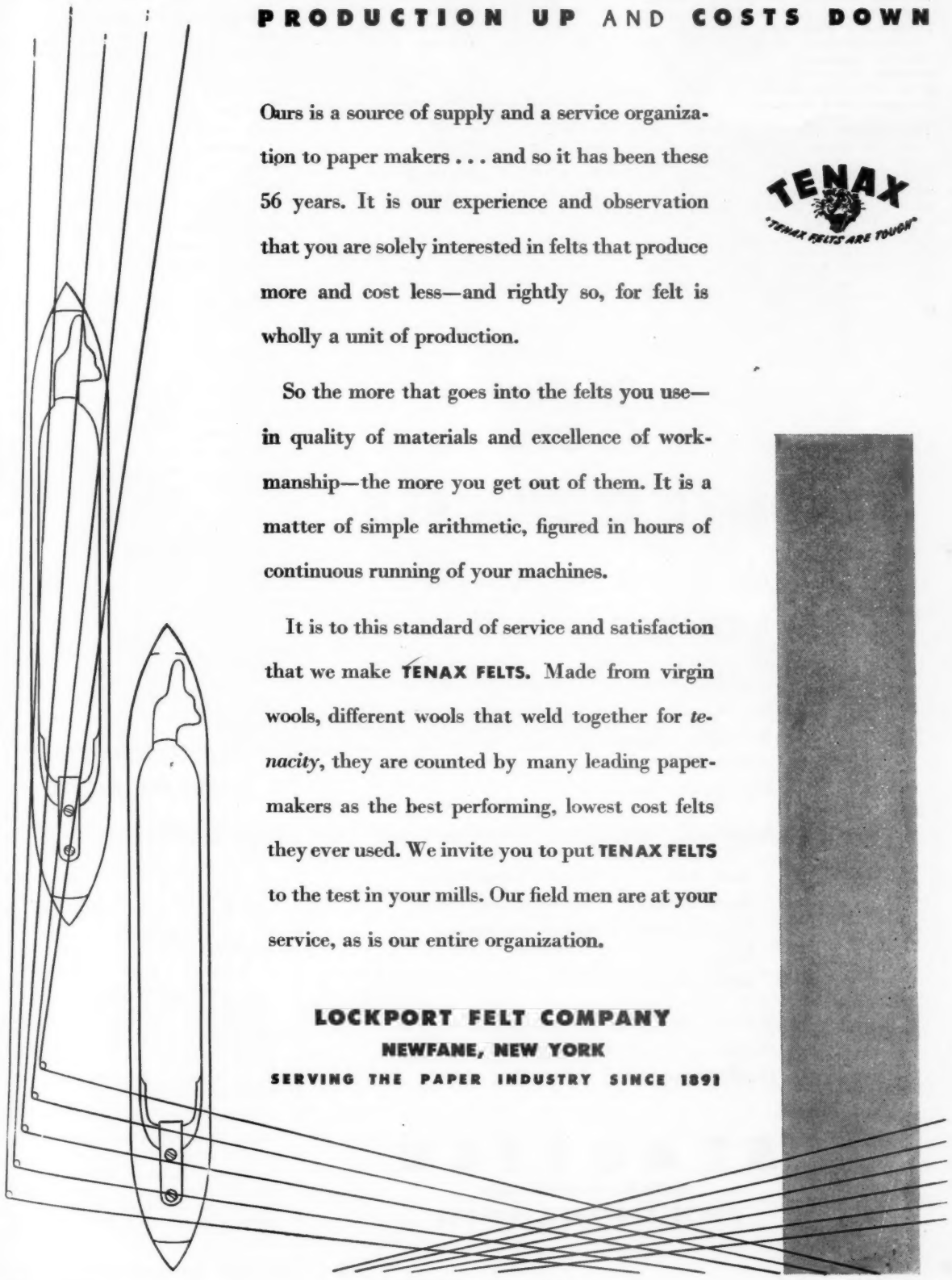

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Murray Seriously Burned in Chicago Hotel

Edward G. Murray, vice president of St. Regis Paper Co., was seriously burned May 7 in a fire in his hotel suite in the Ambassador West Hotel, Chicago.

Fire department officials said that Mr. Murray apparently fell asleep while smoking. He is making satisfactory progress in Henrotin hospital in Chicago as this issue went to press.

Tuscaloosa News

Con C. Coughlin has been named safety engineer for Gulf States Paper Corp., Tuscaloosa, Ala. He previously was associated with the Employers Insurance Company, of Birmingham, Ala.

G. C. ("Chal") McLellan was ceremoniously presented with a 30-year service pin in the bag department of Gulf States Paper Corp. Nine members of his family have been associated with the company.

Ross Engineers Gather At Conference in New York

More than 100 sales engineers from all U. S. and Canadian offices and plants of the J. O. Ross Engineering Corp. were present for the firm's annual sales conference at the Roosevelt Hotel, New York, April 14-19.

New air systems for improved processing operations in pulp and paper and other industries were explained. Sessions were conducted by President S. W. Fletcher.

Elton of Brown On APPA Committee

John A. Elton, manager of Brown Company's foreign department, is a new member of the Export Committee of AP&PA, it was announced recently. Mr. Elton is well known in foreign trade circles, and is at Brown's New York office at 500 Fifth Avenue, New York City.

Lockport Felt's New Laboratory

In line with its post-war plans of research and developments, the Lockport Felt Co. of Newfane, New York, makers of the famous Tenax Felts, has just completed new and enlarged quarters for its laboratory. And to carry out its overall plan of plant enlargement and betterment, work was begun on April 7 on an addition to its fulling mill.

This new building will be one-story, 80 feet x 50 feet, of steel and concrete construction. It will be equipped with two new, double fulling mills and will be modernly lighted and ventilated for the convenience of the workers. The new fulling mills, now on hand, will be supplemented with new washers, extractors and other machinery to make this one of the most complete and efficient mills of its kind in the felt business.

At the rate work is proceeding, Lockport expects to have this new addition in full service within 60 to 90 days.

Rising's President Dead

Richard H. Dempsey, 45, president and general manager of the Rising Paper Co., Great Barrington, Mass., died April 15th. He started in the paper manufacturing business with the Strathmore Paper Co. and had been with Rising 17 years. Surviving are his wife, Mrs. Margaret Dempsey, and two sons, Donald and Richard, Jr.

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CUSTOM BUILDERS OF MACHINERY FOR PAPER MAKERS

Russ LeRoux on Trip To Middle West

Russell J. LeRoux, manager, Everett, Wash., mill of Weyerhaeuser Timber Co., made about a three weeks trip in May to Wisconsin and Michigan mills, the Institute of Paper Chemistry in Appleton, Wis., and the Superintendents Convention in Chicago.

Bob Nash In Chicago For Weyerhaeuser

Robert L. Nash, formerly at the Everett, Wash., mill of Weyerhaeuser Timber Co., has joined William Geiger on the Midwest sales staff of the Weyerhaeuser Pulp Division in Chicago (400 West Madison) and he was at his first Paper Week in New York in late February.

Bob and his bride, Judith, granddaughter of former Governor Hartley of Washington, are living at Deerfield, Ill.

Ringheim Elected President of P.A.'s

An unusual tribute to the paper industry was the recent action of the purchasing agents of Washington State—160 of them from all kinds of enterprises ranging from lumber and iron works to chemical plants and marine works—in electing p.a.'s from two paper companies to their top two offices.

Stanley E. Ringheim, of Crown Zellerbach Corp., Central Engineering Division, Seattle, was elected the new president of the Purchasing Agents Association of Washington. Kenneth A. Knudson, of Everett Pulp & Paper Co., Lowell, Wash., was elected vice president.

Gilmore at Fernandina McGillicuddy Joins Staff

Robert M. Gilmore, assistant director of the industrial relations, Rayonier Incorporated, Olympia, Wash., recently visited the Fernandina, Fla., mill where he consulted with J. T. Sheehy, resident manager, and department heads on personnel and safety matters.

Newly appointed safety director for Rayonier in the Olympia industrial relations headquarters is Frederick D. McGillicuddy, Jr.

Cavin Picks Up Some Skiing Ideas

Harold Cavin, resident engineer, Puget Sound Pulp and Timber Co., Bellingham, Wash., who is president of a ski club himself, returned from a two weeks stay at Sun Valley, Idaho, where he witnessed the premier ski show of the 1947 season. He and Mrs. Cavin saw most of the stars who will take part in the 1948 Olympics.

McPhee Succeeds Fox

Don McPhee has taken over as office manager at the Everett, Wash., mill of Weyerhaeuser Timber Co., and Orville Fox has become office manager of the central headquarters of the company in Tacoma, Wash.

Weyerhaeuser Golf Champ

Roland Steffy, bleacherman at the Everett, Wash., mill of Weyerhaeuser Timber Co., was low gross and low net winner of the mill's golf tournament in May 4 at Cedarcrest course, in a field of about 20 competitiors.

Fry Roofing Co. Plant Planned In California

The Lloyd A. Fry Roofing Company, Inc., Chicago, Ill., plans a new branch plant, including a main one-story building and several auxiliary structures, at San Leandro, Calif.

The company, manufacturer of roofing paper, prepared roofing and other papers, expects the new project to cost approximately $220,000 with equipment.

Pilz on Trip to Europe

W. J. Pilz, president and general manager, Everett Pulp & Paper Co., Lowell, Wash., left on a trip to Europe in the past month.

Quigley Back at Mill

Harold Quigley, paper mill superintendent at Crown Zellerbach's kraft mill in Port Townsend, Wash., took time off for a California trip for his health in April and returned to the mill feeling much better.

Rayonier Profits Up

Rayonier Incorporated reports for six months ended Oct. 31, 1946, net sales of $17,785,879, compared with $12,551,217 in the corresponding period of 1945.

Consolidated net profit was $1,691,145, against $758,785. Dividends were $1.07 per share on common stock compared with 14 cents for the period in 1945.

President Edward Bartsch states that gains reflect production achieved at the Shelton, Wash., mill which was not in operation a year ago, and price increases. The company announced a general increase in prices for its pulp, effective Jan. 1, 1947.

Evans Becomes Vice President, Cooper, Manager, at Powell River

D. A. Evans, for several years resident manager at Powell River for Powell River Co., has been appointed vice president of the company in charge of industrial and public relations, according to announcement by President Harold S. Foley who also announced several other promotions.

Russell M. Cooper, assistant resident manager, has been appointed resident manager in succession to Mr. Evans.

J. A. Kyles, who has been with the company since 1925, has been appointed controller at Vancouver head office, succeeding J. N. Turvey, who resigned last year to become president of Hayes-Lawrence Manufacturing Co.

Mr. Foley also announced that Prof. John Liersch, formerly head of the University of British Columbia's forestry department, had assumed his new duties as forest engineer for the company. His appointment was previously announced in PULP & PAPER Industry.

Several changes in the supervisory organization of the Powell River Co.'s mill personnel have been anounced by Resident Manager Russell M. Cooper. R. M. Black has been placed in charge of the service departments — mechanical, electrical and building maintenance, electric and steam power, mill stores, etc. He was formerly mechanical superintendent.

W. E. MacGillivray will head up the wood preparing departments as general superintendent of pulp mills. Manufacture of groundwood and sulfite pulps comes under his jurisdiction. In 1940, MacGillivray succeeded Ernest Ketchum as groundwood superintendent.

F. R. Riley has been appointed general superintendent of paper mills, directly in charge of beater room, machine rooms, finishing rooms and shipping department. He was formerly machine room superintendent, succeeding Birt Killin in that job.

Frank Flett has been appointed personnel manager with responsibility over employment, public relations and safety.

Powell River Program For News Machines

Powell River Co.'s new No. 8 newsprint machine is expected to start rolling about July 1, 1948, at which time it is planned to retire another of the old, slower machines for other purposes. This will give a net gain in news production of about 36,000 tons per annum. No. 7 machine's operating speed will be increased.

The company will have four wide, high speed, machines, producing the bulk of the company's newsprint, with two old machines retained for newsprint specialties. Final disposition of the two narrow machines, retired from news, will depend on outcome of present research.

Powell River Co. Saving Wood With Barkers

Powell River Co.'s small log barker was expected to get into production during June. The company has been barking well over 90% of all wood used on the big Weyerhaeuser type hydraulic barker installed last winter, according to Vice President Robin Bell-Irving, who says that wood consumption per ton has dropped by approximately 6%.

The four-knife Waterous whole log chipper will be in operation soon after the small barker starts running.

Joins Coast Representative of Gates Engineering

George Houghton, who was formerly with U. S. Rubber Co., has joined Chemical Proof Construction, Inc., 71 Columbia St., Seattle, Wash., the Pacific Coast representatives of Gates Engineering Co., of Wilmington (99), Del., Neoprene, Durofilm and Nitrocote application engineers.

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WANTED to buy one paper cutter with 50-inch blade or larger. Wire or write G. W. Leep, Mississippi Products, Inc., Jackson, Mississippi.

PURCHASING AGENT'S POSITION WANTED

Twelve years combined purchasing agent's experience in pulp and paper—lumbering industries. Former member National Purchasing Agent's Association. Navy veteran. Will accept employment almost anywhere. Van McTaggert, Box 2239, Columbia City, Oregon.

WANTED—Man with experience in pulp and paper industry, preferably with some writing experience, for connection with an industrial publication serving the field. Write Box 43, PULP & PAPER INDUSTRY, 370 Lexington Ave., New York, N. Y. or 71 Columbia St., Seattle 4, Wash.

Another Machine at Longview; News and Board Planned

Production of newsprint on a 100-ton-a-day machine is slated to start in Dec., 1948, at the plant of the Pacific Paperboard Co. in Longview, Wash., according to President E. E. Flood.

The company plans to add another 81-inch paperboard machine to its equipment. It is being moved west from Lawrence, Mass.

Upwards of 2 million dollars will be spent in new equipment and employment will be given 200 additional persons, he said.

A contract has been signed with a syndicate of California and Arizona newspapers, who will buy the machine and take its output, he said. It will be operated by Pacific Paperboard on a lease basis.

Papermakers' Felts Production Increasing

According to U. S. Bureau of Census reports, there were 1,766,000 lbs. of papermakers' felts manufactured in the final quarter of 1946.

These figures compare with production of 1,487,000 lbs. of papermakers' felts in the last quarter of 1945. In the third quarter of 1945, 1,608,000 lbs. were made. Fourth quarter 1946 production was 19% higher than the fourth quarter of 1945 and 10% higher than the third quarter of 1945.

News From San Francisco

Ernest Beine is the new general sales manager of the Oakland Division, Zellerbach Paper Co. John Daly, formerly of the Eugene branch of the company, has been made manager of the Oakland Division resale department.

Mrs. Glory Palm Carlberg, advertising manager, Zellerbach Paper Co., will attend the AAW convention at Sun Valley, June 22-26.

Swedes Expected To Embargo Paper

According to *Stockholms-Tidningen* a general embargo on paper in Sweden can be expected shortly in order to reduce the domestic consumption and increase the export of this staple product.

Sweden's strained foreign exchange situation has made necessary rigorous import restrictions, which the government declared in force March 15. Licenses will be granted for goods needed for Sweden's economy. Hides, cotton, wool, solid and liquid fuels, and gasoline remain free.

Stevenot Sees Easing of Shortage

Fred G. Stevenot, president, Puget Sound Pulp & Timber Co., one of biggest sulfite mills in the world, who annually makes a forecast, predicts the end of the pulp shortage in 1947. But he says there will be no material relief until toward the end of the year for paper mills. Imports from overseas fell far below expectations, he said, and added:

"Based upon U. S. Department of Commerce field surveys, and assuming generally favorable conditions in labor relations and industrial activity, new supply of wood pulp provided in 1947 is expected to exceed last year's total by about a million tons. This estimate depends upon an increase in imports amounting to 310,000 tons for the year, including 130,000 tons' increase in arrivals from Scandinavia. Such a gain would call for 800,000 tons from overseas, whereas in good prewar years we received 1,300,000-1,500,000 tons from this source."

Sweden Denies Trade Discrimination

The Swedish Government asserts there will be no discrimination against imports from the United States as a result of various bilateral agreements entered into with other nations. The extent to which total exports to Sweden will be affected by the restrictions is uncertain. If the U. S. has received a reply to its protest against Sweden's import restrictions, no indication has been given of the American official reaction.

Swedish sources advise that cellulose and paper are the most important of the goods Sweden hopes to be able to export in increased quantities. Cellulose for export has been freed from price control by the government, and this may have favorable effects on shipments to the U. S., although the Swedish pulp industry is not yet able to operate at full capacity owing to the shortage of manpower and materials. An attempt will be made to cut the domestic consumption of paper by 75,000-100,000 tons.

Swedish Pulp Price Developments

Since Sweden recently announced free market prices to pulps sold for the manufacture of paper for export, as well as to pulps sold for export to be manufactured into paper abroad, there have been some interesting developments.

Swedish prices quoted in countries other than the U. S. are in some instances considerably lower. An example: Swedish bleached sulfite in Mexico is about $15.00 per ton lower than in the U. S.

An interesting development in the Swedish picture is that Brazil has stopped the sending of American dollars to Sweden, and any pulp purchased must be paid for in sterling or gold.

A Swedish "stabilization fund" has been instituted. This fund will accrue from assessments of 50 crowns per metric ton on exports of chemical pulp, and 20 crowns on mechanical. A dependable source states that the assessments could total $20,000,000 annually. The fund will be operated by a "Foundation," recently formed and managed by a board of eleven members of the Swedish Cellulose Association's working committee, together with two delegates from the government. Until 1951 disbursements can be made at the discretion of the board, subject to government approval. It is believed that such disbursement might be made not only for research, but to support the industry in the event of a price collapse. In 1951 the fund is to be liquidated, contributing firms being repaid in three equal instalments.

Informed sources now believe that Sweden's chemical pulp shipments to the U. S. this year will be in the neighborhood of 440,000 short tons. Last year they were 430,695.

More Swedish Mills To End Operations

The pulp situation grows increasingly bad in Sweden, and one of the latest developments is that one pulp mill has been sold to Czechoslovakian interests, and two others are to be sold, possibly to U. S. owners. All three mills would be taken down and the equipment moved out of Sweden.

This type of sale is not prohibited by the 1916 law which prohibits the sale of a mill for operation in Sweden itself. Reason for the abandonment of mills is lack of wood supply. This information comes to PULP & PAPER from a prominent engineer recently returned from Sweden.

Swedish Mill Wood Confiscated for Fuel

A Swedish pulp mill is reported to have had it woodpile confiscated as fuel for the city of Stockholm, and this has happened since the government's free export price decision. It was the equivalent of 3,000 tons of pulp and cannot be replaced in this cutting season. The mill has had to wire some cancellations.

A Little More Swedish Export Pulp

Swedish government domestic consumption restrictions have been taken which would seem to indicate at least 30,000 to 40,000 more tons of pulp available for export to world markets in 1947—but that's very little to divide up abroad.

The Swedish government has taken drastic steps to cut down paper consumption. The domestic paper industry has been promised enough raw material this year to make about one million tons of paper and board, but of this quantity the Swedish market will be permitted to absorb only 460,000 tons, as compared with last year's unusually high figure of 530,000 tons. During the first three months of 1947, paper consumption in Sweden has also been very high, and resrtictions will therefore have to be more severe than the figures indicate.

Wood pulp set aside for domestic purposes in 1947 will amount to 140-150,000 tons, against 180,000 tons in 1946.

The daily press will have to achieve a saving of newsprint amounting to 12 and 20%, in some cases more. Most magazines will have to cut space by 30 to 35%.

Reports of Large Operations

The $67,000,000 St. Regis Paper Co., now producing 496,000 tons of paper and 417,000 tons of pulp, annually, as well as 263,570 tons of multiwall bags and 25,000,000 pounds of Panelyte plastic, showed a marked gain in sales in 1946. Net sales for 1946 were $82,782,186 as compared with $52,500,824 in 1943. Net profit was $5,563,604 as compared with $2,211,411 in 1945.

According to Roy K. Ferguson, president, things look even better for 1947. "A full twelve month operation of original and newly acquired properties is expected to increase the sales volume for this year to $110,000,000," he said in his annual report. "Plans for 1947 call for further modernization of plants, replacement of obsolete equipment, development and installation of mechanized high-speed units, as well as completion of projects now under way." The year 1946 was already marked by unusual developments in which many St. Regis objectives of long-range planning were realized, Mr. Ferguson pointed out.

Fred G. Stevenot, president of Puget Sound Pulp & Timber Co., said "progressive improvement" was registered by his company throughout 1946 and as "constructive" factors, he noted substantial savings effected by hydraulic barking and chipping; better pulp prices; lower charges for plant depreciation; tax rate reduction (although Uncle Sam got nearly twice as much as in 1945); partial relief from log shortage; net gain in timber reserves acquired over depletion; another step toward integration with a new board mill and purchase of the alcohol plant which had been leased from the government.

Sales amounted to $7,187,883 as compared with $6,216,860 in 1945.

Net income for the year, after tax provisions, amounted to $1,320,507, in comparison with $409,530 in 1945. These results covered preferred dividend requirements 19.6 times in 1946, against 6.1 times in 1945, and profits remaining after preferred dividend payments were equal to $3.83 a share for the common stock, comparing with $1.05 in 1945.

Hammermill Paper Company continued to be in a strong current position. The net working capital of the company and its subsidiaries at December 31, 1946 was $6,700,633 compared with $5,930,078 at December 31, 1945. Its net sales in 1946 were $14,106,599 as compared with $11,855,728 the previous year. Earnings for the year 1946 after taxes were $940,205 as compared with $528,038 in 1945. Earnings per common share were $4.32, while in 1945 they were $2.35.

N. W. Wilson, president of Hammermill, announced that production was 8.7% higher than in 1945, despite difficulties in obtaining basic papermaking materials and by manpower shortages. Production in 1946 was 68,938 tons. Said Mr. Wilson: "Hammermill enlarged its staff of technically trained people in the year 1946. The achievement of better quality, lower costs, wider product diversification, and a host of collateral benefits can only be obtained by intelligent and continued expenditures in the fields of research and engineering. We intend to continue to explore and use the opportunities offered by a comprehensive technical program."

Fischer & Porter Bulletin

A new illustrated bulletin, greatly augmented, describing Flowrator instruments for measuring flow rate of liquids and gases can be obtained by writing to Department 2F-C, Fischer & Porter Co., Hatboro, Pa.